

September 14, 2006

Mr. Tony Martig Regional PCB Coordinator US EPA Region V 77 W. Jackson Blvd. Chicago, IL 60604

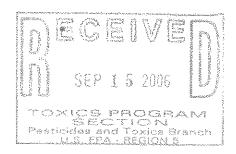
Re: PCB Action/Work Plan

Bodycote Thermal Processing

1975 N Ruby Street Melrose Park, IL 60160 Project No. 1998002.200

Dear Mr. Martig:



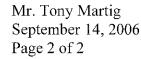


On behalf of Bodycote Thermal Processing (Bodycote), Mabbett & Associates, Inc. (M&A) has prepared the enclosed *Polychlorinated Biphenyl Action/Work Plan* (PCB Action Plan) for the facility located at 1975 North Ruby Street, Melrose Park, Illinois (the Site). This plan was developed in accordance with 40 CFR 761.61 and addresses PCB groundwater and non-aqueous phase liquid (NAPL) contamination located beneath the Heat Treating Building (HTB) portion of the facility.

Based on information and data submitted previously to the Illinois Environmental Protection Agency (IEPA) two areas of soil and groundwater contamination were identified beneath the HTB. An area of dense non-aqueous phase liquid (DNAPL) and light non-aqueous phase liquid (LNAPL) have been identified and evaluated. Chemical analysis of DNAPL, LNAPL, and groundwater in the immediate vicinity of NAPL occurrence has yielded varying concentrations of PCBs. The presence of PCBs appears to correspond in part to the presence of certain areas of DNAPL and LNAPL. A separate distinct release of PCBs has not been identified. Both areas are located beneath the HTB building footprint and are currently undergoing remediation by the ongoing operation of IEPA approved product recovery efforts.

M&A has researched and interviewed Bodycote personnel as to potential sources of PCB contamination in the subsurface and based on the resultant information we have been unable to identify a specific source of the PCBs. The facility has been in operation since the 1950s and documentation has not been identified regarding the use and storage of PCB containing materials at the facility.

Groundwater and NAPL samples have been collected and analyzed for PCBs intermittently over the past several years from various monitoring wells located throughout the HTB in an effort to identify a source. Based on these data, dissolved PCB contamination has been observed in a limited area both laterally and vertically beneath the HTB. Dissolved PCB concentrations in groundwater appear



to be declining and in certain instances PCB concentrations in free phase oil have also declined dramatically.

M&A has performed ongoing NAPL removal efforts at the Site for 5+ years which have reduced NAPL occurrence and would appear to be an effective means at additional PCB reductions; since PCBs appear to be present coincidentally with NAPL occurrence. Due to the low permeability and corresponding low groundwater recharge rates observed in HTB monitoring wells, it is M&A's opinion that additional remedial actions would not substantially increase the rate of PCB mass removal from the subsurface in the short term.

Based on available information and ongoing consultation with the IEPA in regards to aerial extent of PCB contamination, M&A proposes the installation of 2-3 additional monitoring wells in the northwest region of the HTB and 1-2 monitoring wells outside the northwestern wall of the HTB during the fall of 2006 to confirm the extent of PCBs. Upon completion of these borings/wells, M&A would conduct another full comprehensive round of groundwater and NAPL sampling utilizing low flow sampling techniques to corroborate our April/May data in fall 2006.

Based on analytical data trends observed to date, M&A proposes that continued NAPL recovery serves as the most feasible course of action for PCB contamination removal. M&A recommends continued NAPL recovery to the maximum extent practicable coupled with long term monitoring and data analysis. All PCB contaminated NAPL and/or groundwater wastes removed from the subsurface will be handled appropriately and disposed of at a permitted facility.

The PCB Action/Work Plan prepared by M&A and dated September 12, 2006 is attached for your review and consideration. If you have any question please feel free to contact me or my colleague William Simons, P.G., LSP.

Very truly yours,

MABBETT & ASSOCIATES, INC.

BY:

Paul D. Steinberg, P.E., LSP

Vice President

(781) 275-6050 x 306

cc: Brian Strebing (Bodycote Thermal Processing)

WFS (MF/RF)

Mabbett & Associates, Inc. Environmental Consultants & Engineers

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provides integrated environmental,

health and safety consulting

and engineering design services

to industry, commercial enterprise

and public agencies."

POLYCHLORINATED BIPHENYL ACTION/WORK PLAN

BODYCOTE THERMAL PROCESSING MELROSE PARK, ILLINOIS

9/12/08

PROJECT NO. 1998002.200

September 12, 2006



Mabbett & Associates, Inc. Environmental Consultants & Engineers

5 Alfred Circle Bedford, MA 01730-2346

Telephone: (781) 275-6050 Toll Free: (800) 877-6050 Facsimile: (781) 275-5651

info@mabbett.com www.mabbett.com

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ACKNOWLEDGMENT

This *Polychlorinated Biphenyl Action/Work Plan* (PCB Action Plan) for 1975 North Ruby Street, Melrose Park, Illinois has been prepared for the sole and exclusive use of Bodycote Thermal Processing (Client). This report is subject to and issued in connection with Letter-Agreement dated February 10, 2006. Any use or reliance upon information provided in this report, without the specific written authorization of the Client and Mabbett & Associates, Inc. (M&A), shall be at the User's sole risk. No attempt has been made to assess the compliance status of any past or present Owner or Operator of the Property with any Federal, state, or local laws or regulations.

The findings, observations, and conclusions presented in this report, including the extent of subsurface explorations and other tests, are limited by the scope of services outlined in our Letter-Agreements which reflect schedule and budgetary constraints. The professional opinions and findings presented in this report are based on the facts and information conveyed to or observed by M&A during completion of this project. Furthermore, assessment and field operations have been performed in accordance with generally accepted engineering practices. No other warranty, expressed or implied, is made.

The assessment presented in this report is based solely upon the laws and regulations existing as of the date of this report as well as information gathered to date including a limited number of subsurface explorations made on the dates indicated and performed by others. Should further environmental or other relevant information be developed at a later date, the Client should bring such information to the attention of M&A as soon as possible. Based upon an evaluation, M&A may modify this report and its conclusions.

This report was prepared by the following Mabbett & Associates, Inc. personnel:

Christopher L. Mabbett, MS, EIT

Environmental Engineer and Hydrogeologist

ACKNOWLEDGMENT (Continued)

This report has been reviewed and approved by:

MABBETT & ASSOCIATES, INC.

BY:

Paul D. Steinberg, P.E., LSP

Vice President

William F. Simons, PG, LSP

Project Manager and Senior Hydrogeologist

EXECUTIVE SUMMARY

This *Polychlorinated Biphenyl Action/Work Plan* (PCB Action Plan) was prepared by Mabbett & Associates, Inc. (M&A) for the Bodycote Thermal Processing (Bodycote) facility at 1975 North Ruby Street, Melrose Park, Illinois (the Site). This report was developed in accordance with 40 CFR 761.61 and addresses PCB groundwater and non-aqueous phase liquid (NAPL) contamination located beneath the Heat Treating Building (HTB).

Based on information presented to the Illinois Environmental Protection Agency (IEPA) in the *Site Investigation Report*, dated September 22, 1998, two areas of soil and groundwater contamination were identified beneath the HTB. An area of dense non-aqueous phase liquid (DNAPL) proximate to intermediate depth well M&A-113 and light non-aqueous phase liquid (LNAPL) proximate to well M&A-114. Both areas were located beneath the HTB building footprint and are currently being contained and remediated by the ongoing operation of various product recovery efforts. A *Remedial Action Plan* (RAP) for the HTB prepared by M&A dated August 16, 2000 was conditionally approved by IEPA in a letter dated December 28, 2000.

Tier 2 soil and groundwater remedial objectives were established by the IEPA in a May 15, 2000 technical review letter in response to the *Remedial Objectives Report for Heat Treating Building* (August 2000).

To implement the conditionally approved RAP with respect to meeting the requirements of achieving soil remedial objectives (SROs), the following actions have occurred:

- Established an engineered barrier utilizing the existing concrete slab flooring present over areas of residual soil impacts and including the construction of a concrete slab along Ruby Street in order to eliminate potential exposure via the industrial/commercial inhalation and ingestion pathways. The engineered barrier was installed to extend to the limits specified in IEPA's conditional approval letters.
- Upon completion of the remedy an Institutional Control will be filed for the area of soil
 contamination to manage potential future exposure to the restricted areas of residual soil
 impacts and to provide for ongoing maintenance of the engineered barriers.

Groundwater remedial objectives (GROs) for the HTB were established based in part on pathway exclusion, provided that LNAPL at well M&A-114 and DNAPL at well M&A-113 were removed to the maximum extent practicable and environmental institutional controls restricting groundwater usage are implemented. Institutional controls for groundwater were established and confirmed in submittals to IEPA. LNAPL removal at well M&A-114 was initiated in November 1997 and appears complete. DNAPL removal at well M&A-113 was initiated in November 1997 and is on-going.

Under the IEPA approved RAP in 2000, nine drums of recovered groundwater/DNAPL from M&A-113 were tested, profiled, and disposed of. Of those nine drums, Aroclor 1248 was detected in the organic layer of eight drums at concentrations ranging from 341 mg/kg to 516 mg/kg. These detections of PCBs were above Illinois State and Federal PCB regulations. In order to delineate the extent of contamination, a sampling program was initiated in conjunction with the regularly scheduled sampling required by IEPA.

In October 2005, M&A contacted Ms. Priscilla Fonseca (Region V EPA) in regards to the actions necessary to begin PCB clean up activities and/or continue contaminant delineation activities at the facility. Ms. Fonseca informed M&A that Bodycote must file a "Notice of PCB Activity" (Form #7710-53) and must file a PCB Action/Work Plan. Form #7710-53 was appropriately filed on November 8, 2005.

In July 2006, M&A contacted Ms. Jean Greensley (Region V EPA) to further develop a timeframe for PCB cleanup initiation. Ms. Greensley informed M&A to prepare and submit a PCB Action Plan per 40 CFR 761.61 as soon as possible. In accordance with that request, this PCB Action Plan summarizes PCB actions to date and provides a detailed description of planned remedial actions.

Semi-annual monitoring of selected groundwater monitoring wells has been conducted at the Site since 2000 under the IEPA Voluntary Cleanup Program and will continue until final remediation of the units has been achieved and GROs are met. Semi-annual groundwater monitoring reports summarizing analytical data and operation and maintenance of the recovery systems will continue to be submitted to IEPA. LNAPL and DNAPL recovery efforts are ongoing at the HTB and will be continued until recoverable separate phase liquids have been mitigated to the extent practicable.

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I. DISPOSAL SITE LOCATION

The Bodycote facility consists of a large industrial complex of approximately twelve interconnected buildings, adjacent paved parking areas and concrete slab on grade foundations of facility buildings. The facility was constructed in the 1950s and has been the site of heat treating operations since that time. The Site is zoned "Industrial" and is planned for use as a manufacturing facility into the foreseeable future. The Bodycote facility is surrounded by high-density commercial/industrial operations for an approximate ½ mile radius from the Property. Drawing L-1 depicts a Site Location Map and surrounding land use. Refer to Drawing L-7 for topographical map of area.

II. SITE HISTORICAL REMEDIAL ACTIONS

The August 2000 RAP was developed in accordance with 35 Illinois Administrative Code 740.445 and addressed soil and groundwater contamination associated with light non-aqueous phase liquid (LNAPL) and a separate area of dense non-aqueous phase liquid (DNAPL) identified beneath the facility's Heat Treating Building (HTB). Two additional petroleum releases have been delineated at wells MCA-2 and M&A-301 (IEMA Incident No.'s 891730 and 981877, respectively). However, these two releases are associated with former underground storage tanks and are being administered by the IEPA under the leaking underground storage tank (LUST) program. The aerial extent of the LNAPL and DNAPL zones were delineated in a *Focused Site Investigation Report* submitted to IEPA by M&A on September 22, 1998, which was approved by IEPA in an April 27, 1999 correspondence.

Site specific Tier 2 remedial objectives were developed and presented in a *Remedial Objectives Report*, *Heat Treating Building* submitted by M&A to the IEPA on October 26, 1999. The Soil Remedial Objectives (SROs) for volatile organic compounds (VOCs) were approved by IEPA in a May 15, 2000 technical review letter. In addition, IEPA established the maximum detected concentrations for each contaminant of concern (COC) within HTB groundwater as Tier 2 Groundwater Remedial Objectives (GROs).

The approval of the GROs was contingent on the removal of NAPL to the maximum extent practicable, implementation of groundwater usage controls, and semi-annual groundwater monitoring. Approval of the SROs was contingent on the maintenance of an engineered barrier and implementation of institutional controls restricting activities in the area of soil contamination and restricting groundwater usage on the property.

Major components of the RAP included:

- Ongoing removal of DNAPL from well M&A-113 to the maximum extent practicable.
- Ongoing removal of LNAPL from well M&A-114 to the maximum extent practicable.
- Implementation of an institutional control for pathway exclusion of soil (future).
- Implementation an institutional control for pathway exclusion of groundwater.
- Maintenance of an engineered barrier (concrete floor).
- Semi-annual groundwater monitoring of select groundwater monitoring wells until the source areas are remediated (i.e. free product is removed to the extent practicable) and compliance with GROs is achieved.

DNAPL Removal at M&A-113

Removal of DNAPL from well M&A-113 has been conducted since November 1997 with a stainless steel QED pneumatic EliminatorTM pump equipped with a Teflon bladder. The pump is set at 31 feet below grade at the bottom of well M&A-113, which is screened across the DNAPL impacted sand unit. The system is run on compressed air, which passes through a gross particle filter and oil coalescing filter prior to injection into the bladder pump. Recovered product and groundwater are collected in a 55-gallon drum located adjacent to the wellhead. The system is controlled by a pneumatic/electric controller. This controller includes a pressure regulator, solenoid switch, pressure gauge and electronic timers. The system also includes a pneumatic shut-off high level indicator within the collection drum. When the product storage drum is approximately 2/3 full a

backpressure device automatically shuts off the air supply for the pneumatically driven Eliminator™ pump.

Operation and maintenance of the recovery system involves changing the product recovery drum approximately once every two months. On-site maintenance personnel are responsible for the removal and replacement of filled drums. To date removal efforts at well M&A-113 have yielded approximately 350 gallons of DNAPL and 1,500 gallons of groundwater. The proportionate amount of DNAPL recovered in each 55-gallon drum has been reduced from approximately 20% per drum at system start to 10% currently. This is potentially due to decreasing DNAPL presence. The recovery system operation will be maintained until free product at well M&A-113 has been recovered to the maximum extent practicable.

LNAPL removal at M&A-114

The removal of LNAPL from M&A-114 was originally conducted via the use of an ABANAKI PetroXtractorTM Well Oil Skimmer, which was in use from November 1997 to September 2000. Prior to installation of the recovery system, the LNAPL layer had been monitored, and amounts approaching two feet had been observed in the well. Periodic hand bailing of product from the well reduced the average LNAPL thickness to two inches or less. Based on this information, it was determined that an automated product removal system would remediate the LNAPL release more effectively than periodic handbailing. During the first week of operation the belt skimmer was run for approximately 3 hours per day. However, field reports indicated that after one week of operation, no recharge of LNAPL was noted. The frequency of belt skimmer operation was reduced to 1-2 hours several times per week.

Field reports indicated little or no product was being collected on the belt skimmer; therefore the skimmer was removed in September 2000. An oil absorbent sock was placed in the well to monitor for the presence and also to collect any residual oil in the well.

Since this time, LNAPL presence has been monitored and recovered via the use of an oil absorbent sock and when necessary, hand bailed. These practices will continue until recoverable product has been mitigated to the extent practicable.

Well MCA-2

Well MCA-2 was drilled in 1990 and free product was immediately observed in the well. The condition was assigned Incident Number 891730 and free phase product recovery has been conducted under the management of the Leaking Underground Storage Tank (LUST) Section of the IEPA.

LNAPL removal and reporting activities have been conducted at well MCA-2 from December 1993 to the present. Recovery of LNAPL from December 1993 to February 1995 was completed by periodically hand bailing the well. A PetroPoreTM oil recovery system was installed at the well in July 1995. M&A removed the PetroPoreTM recovery system in September 2000 due to the lack of free product observed in the system. An oil absorbent sock was placed in the well to monitor and recover any recurring free product. Currently less than ½ inch of oil is observed in the well. Oil absorbent socks will continue to be placed in MCA-2 until LNAPL is removed to the maximum extent practicable.

Well M&A-301

Well M&A-301 was drilled in September 1996 as part of a program to characterize subsurface conditions in the area of three USTs that were later closed in-place. During routine water level gauging of the well in July 1998 approximately 26 inches of LNAPL were observed in the well. M&A made a verbal release report to the Illinois Emergency Management and LUST Incident No. 981877 was assigned. Remedial activities have been conducted since that time including periodic bailing of LNAPL from the well. M&A has submitted a 20-Day Certification Report dated August 17, 1998, A 45 Day Report and Initial Free Product Removal Report dated November 6, 1998, A Site Classification Completion Report dated October 22, 1999, and subsequent Quarterly Free Product Removal reports including the most recent report dated May 19, 2006.

No free product has been observed in the well during the past year. Bodycote personnel continue to monitor and recover, if necessary, product present in the well using a PVC bailer dedicated to the well. The well is monitored periodically (approximately bi-weekly) to assess the presence of LNAPL, and if present to remove the LNAPL. Currently an absorbent sock is placed in the well to monitor and recover product. Based on the lack of LNAPL it is projected that closure will be sought in the coming months for this incident number.

III. SITE DESCRIPTION

A. Introduction

M&A completed two drilling programs on-Site during the initial investigation. The initial drilling program was completed between August 5, 1997 and August 12, 1997 when M&A personnel observed the drilling of twelve (12) soil borings and the subsequent installation of groundwater monitoring wells within each boring (M&A-111, -112, -113, -114, -115, -116, -117, -118, -120, -121 and -122). Simultaneous to the completion of the initial drilling program, numerous protective well casings at existing wells and soil vapor probe clusters that had been damaged by forklift traffic were also repaired and/or replaced.

The second drilling program was completed between June 22, 1998 and June 26, 1998 when M&A personnel observed the drilling of five (5) additional soil borings and the subsequent installation of groundwater monitoring wells within each boring (M&A-123, -124, -125, -126 and -127). Monitoring well/boring locations are shown on Drawing L-2. Refer to Appendix A, Boring Logs and Monitoring Well Installation Diagrams, for specifics.

B. Geology

Examination of the subsurface boring log details from locations drilled on-Site indicate the unconsolidated material underlying the Site has a discernible stratigraphy based on the correlation of sediments between bore holes. Two (2) geologic cross-sections were constructed (Drawing L-3); A-A' which traverses the entire site from west to east and D-D' which intersects section A-A' from north to south in the vicinity of the center of mass of the TCE release. Borings which were not directly on the transect line but were close enough to provide useful information were projected onto the cross-sections. This results in a slight distortion of the spacial relationship between the borings, but permits a more complete depiction of Site stratigraphy. Due to the distortion discussed above, the lack of a precise depth to water measurement in borings where wells were not installed and wells which contain little or no groundwater, the position of the water table indicated on the cross-sections should be considered an approximation. Therefore, this information should only be used to evaluate the position of contaminants in approximate relation to the water table. Groundwater contours and direction of movement are discussed in Section C of this report and detailed boring logs are contained in Appendix A.

The concrete slab-on-grade construction of the building floors was completed on fill material which varied in thickness from approximately two to seven feet. The shallow fill material (two to three feet) is primarily comprised of sand and gravel and does not appear to be native to the Site. The presence of a black, ashy, slag like material including metal shavings, was noted at numerous locations within the shallow fill. The deeper fill material (three to seven feet) is primarily comprised of silt, with varying percentages of clay, fine sand, and fine gravel and appears to have originated on or near the site. Borings drilled outside of the buildings did not encounter any of the sand and gravel fill material.

The native material underlying the fill between the approximate depths of 5 to 20 feet below grade is primarily silt, with varying percentages of clay, and fine to coarse sand. The moisture

content of the silt varied from damp to wet and exhibited varying degrees of vertical, horizontal or diagonal fracturing. Some of the larger fractures have been filled with fine sand. The color of the silt was found to be four different colors: gray, olive, tan/brown and dark brown. These silt units appear to be primarily lacustrine in origin but may also contain glacial outwash and/or fluvial deposits within them.

Underlying the silt beneath the majority of the site is dry, very dense, gray very fine sand and silt exhibiting slaty horizontal cleavage and/or fracturing. This gray very fine sand appears representative of a beach facies. The gray very fine sand is located between the approximate depths of 20 to 28 feet below grade in the southern and eastern portions of the site.

Underlying the gray very fine sand and silt beneath the southern and eastern portions of the site is dry, very stiff, gray silt and fine sand. The gray silt and fine sand is located between the approximate depths of 28 to 30 feet below grade. The gray silt and fine sand unit beneath the southern and eastern portions of the site exhibits varying degrees of vertical, horizontal or diagonal fracturing to a maximum depth of approximately 30 feet. Below this depth, fracturing was not generally observed, possibly due to increased plasticity of the till, or the weight of overlying materials. The gray silt and fine sand is also observed to be interbedded with the gray very fine sand and silt unit beneath the northwestern portions of the site between the approximate depths of 22 to 31 feet below grade.

Underlying the gray silt and sand beneath the southern and eastern portions of the site is wet, medium dense, gray fine to coarse sand with lesser amounts of silt. The wet gray fine to coarse sand is located between the approximate depths of 31 to 34 feet below grade. This wet gray fine to coarse sand unit appears to represent an intermediate depth water bearing zone.

Underlying the gray silt and fine sand beneath the northwestern portions of the site is dry, very dense, gray very fine sand and silt exhibiting slaty horizontal cleavage and/or fracturing. This gray very fine sand is similar to that located in the eastern and southern portions of the site but is located at a greater depth of approximately 31 to 35 feet below grade. The gray very fine sand and silt is observed to overlie and interbed with silt and fine sand below the approximate depth of 35 feet beneath the northwestern portions of the site.

A hard gray glacial till unit was identified beneath the gray fine to coarse sand under the southern and eastern portions of the site below an approximate depth of 34 feet below grade. The gray till is primarily comprised of silt with varying percentages of clay, sand and gravel. The moisture content of the till varies from damp to wet. The wet zones within the predominately damp till where associated with sand and gravel lenses.

The deeper native material underlying the northwestern portions of the site appears to be primarily comprised dry, very dense, gray very fine sand and silt exhibiting slaty horizontal cleavage interbedded with dry silts and fine sands. The northwestern portions of the site do not appear to contain wet zones associated with sand and gravel lenses observed within the till observed in eastern and southern portions of the site.

Geologic maps contained in Circular 532 published by the Illinois Department of Energy and Natural Resources, State Geological Survey Division, entitled "Potential for Contamination of Shallow Aquifers in Illinois" (Berg et al, 1984) were reviewed. Plate 1, "Potential for

Contamination of Shallow Aquifers from Land Burial of Municipal Wastes" (Berg et al, 1984) describes the surficial geology as a "Uniform, relatively impermeable silty or clayey till at least 50 feet thick; no evidence of interbedded sand and gravel." Since lenses were found at the Bodycote facility and till is typically unstratified and poorly sorted, the description contained in this publication may not be entirely representative of the stratigraphy observed during this investigation. However, the sand and gravel lenses encountered have not been observed to be more than 5 feet thick, as specified by IAC Title 35 Part 620.210 to meet the definition of a potable water supply. Additionally, the results of well yield tests, as described in Section C, completed on groundwater monitoring wells screened across these sand and gravel lenses during previous investigations, indicate that these sand and gravel lenses are not capable of yielding a sufficient volume of groundwater to warrant changing the Berg et. al., 1984, Plate 1 E designation for the intermediate depth geology at the Bodycote site. The geologic limitations section of Plate 1 also indicates the Bodycote site to be in an area of low potential for contaminating shallow aquifers.

The geologic description contained in the "Preliminary Report on Groundwater Resources of the Chicago Region, Illinois" (Suter et. al., 1959) provides a geologic description of a typical glaciolacustrine deposit sequence which appears to explain both the thin sand and gravel lenses noted on the intermediate depth on-site borings logs and also indicates relatively impermeable silty or clayey fine-grained materials. Suter et. al., describes the observed intermediate depth geology as consisting of the following: deposits of well sorted sand and gravel accumulated along beaches by wave action, inclined sand and gravel beds laid down in deltas, and fine sediment that settled in quiet waters off shore. Not withstanding a published geologic description which specifically matches the observed on-site intermediate depth geology, the shallow on-site geology underlying the site was observed to consist of relatively impermeable silty or clayey till or other fine-grained materials to a depth greater than 20 feet, and is consistent with the Berg et. al., 1984 D2 designation.

C. Hydrogeology

Groundwater elevations were measured relative to top-of-PVC casing elevations which were determined by Advanced Survey & Mapping, Inc. Elevations are referenced to the National Geodetic Vertical Datum (NGVD) of 1929. The depth to groundwater/oil was measured in all on-Site groundwater monitoring wells by M&A personnel in April 2006 during the on-going semi-annual groundwater monitoring events. Refer to Table 3, Groundwater Elevations, for a summary of casing elevations, depth to groundwater and groundwater elevations.

The depths to groundwater utilized to calculate groundwater flow contours presented for the entire Site were measured in April 2006. The groundwater elevations calculated for the monitoring wells, and field observations during drilling, indicated that two (2) groundwater bearing zones appear to be located beneath the Site. The saturated soils comprising the water bearing zones were encountered at the approximate depths of 3 to 7 feet and 31 to 34 feet below grade, respectively.

The shallow water bearing zone, primarily located within fill material between the depths of 3 to 7 feet below grade, was observed to be horizontally discontinuous across the site and the vertical extent or maximum depth generally was not observed to be greater than 10 feet. Beneath the building, this water bearing zone appeared to be associated with the interface between sand and

gravel fill, and underlying silts. Outside the building, the location of the first water bearing zone appeared to be less predictable, with depth being dependent on the natural gradational variation in material types and/or the frequency of diagonal fracturing as noted on the boring logs.

The intermediate depth water bearing zone was observed to be associated with a fine to coarse sand and silt deposit, between the approximate depths of 31 to 34 feet below grade, at intermediate depth borings located in the southern and eastern portions of the Site. The fine to coarse sand and silt deposit associated with the intermediate depth water bearing zone was observed to vary in thickness from approximately 1 to 3 feet and appears to represent a leaky confined water bearing zone. The water table elevation measured in all of the monitoring wells screened in the intermediate depth bearing zone locate the groundwater table above overlying very fine sand and silt deposits. Although the water table at intermediate depth monitoring wells M&A-111, -113, -115, -117, -119, -121, -126, and -127 is within or above a very fine sand and silt, no water was observed to be associated with the fine sand and silt at these locations during the drilling of the numerous borings locating the fine sand and silt. This condition appears due to confining pressures, and there is no water in the very fine sand and silt itself at these locations. The intermediate depth fine to coarse sand and silt deposit was not observed at monitoring well/boring M&A-122. However, well M&A-122 appears to be hydraulically connected with this water bearing zone and the very fine sands and silts at this location produced groundwater after the well stabilized. Wells screened entirely within the deeper fine sands and silts (M&A-123 and M&A-125) had no measurable water within them approximately one (1) month after installation.

The water bearing zones were observed to be isolated from each other by dry to damp silt. Contour maps depicting shallow and intermediate depth groundwater contours were constructed and are presented as Drawings L-4, Shallow Groundwater Contour Plan, and L-5, Intermediate Depth Groundwater Contour Plan, respectively. Water table elevations for on-site monitoring wells located outside of the study area of this investigation were also used to construct the contour maps to provide a more regional representation of groundwater flow. The depth to groundwater ranged between 2.9 and 31.35 feet below grade across the Bodycote site. Groundwater elevations calculated for on-site monitoring wells which had a measurable thickness of separate phase petroleum product were not used in calculating the groundwater flow contours.

Similarly to previous investigations, the groundwater elevations calculated for the shallow groundwater contours in the vicinity of the Heat Treating Building had a generalized groundwater flow direction from east to west. While the intermediate depth groundwater contours beneath the Heat treating Building indicate a generalized flow direction from west to east toward the Gantry Building.

Hydrologic connections between various water bearing strata in the shallow aquifer appear to be discontinuous, and certain wells may contain groundwater intermittently after several months of stabilization. This is evidenced by shallow groundwater monitoring wells in close proximity to each other yielding radically different volumes of groundwater as observed while sampling the wells. For example, monitoring well M&A-124 has not been observed to contain groundwater, well M&A-102 while containing groundwater has insufficient overnight recharge for sampling and wells MCA-5, M&A-101, -105, -106 and -107 while often observed to contain sufficient groundwater for overnight recharge and sampling, wells M&A-106 and M&A-107 have also

been observed to contain no groundwater or have insufficient overnight recharge for groundwater samples to be collected. Shallow groundwater monitoring wells M&A-104, MCA-2 and MW-6 were the only wells which appeared to recharge readily during purging.

D. Groundwater Classification

Data collected during the completion of the hydrogeologic investigations at Bodycote was used to re-examine the classification of the intermediate depth groundwater bearing zone beneath the Bodycote site utilizing the classification system criteria established by IEPA under TITLE 35 ILL. ADM. CODE 303, Part 620, Subpart B, Groundwater Classification. Groundwater is classified as Class II, or general resource groundwater, if the provisions of the other classifications are not met: Section 620.210 (Class I); Section 620.230 (Class III); or Section 620.240 (Class IV).

Based on this classification system, M&A had previously determined all groundwaters beneath the Bodycote site to be Class II. In a January 4, 1996 correspondence, IEPA concurred that groundwater beneath the Bodycote site had been determined to be Class II to a depth of 25 feet. However, IEPA was of the opinion that additional information was necessary to make a determination that intermediate depth groundwater met the Class II criterion. Specifically, IEPA wanted to ensure the intermediate depth water bearing zone is not capable of yielding the Class I criterion of 150 gallons of water per day.

Under Section 620.210, if the following criteria are met, the groundwater is classified as Class I: the groundwater is located 10 or more feet below the land surface and: within the minimum setback zone of a well which serves as a potable water supply; within unconsolidated sand, gravel or sand and gravel which is 5 feet or more in thickness and that contains 12 percent or less of fines (i.e. fines which pass through a No. 200 sieve); within sandstone which is 10 feet or more in thickness, or fractured carbonate which is 15 feet or more in thickness; within a geologic material capable of a sustained groundwater yield (from up to a 12-inch borehole) of 150 gallons per day or more from a thickness of 15 feet or less; or within a geologic material which has a hydraulic conductivity of 1 x 10⁻⁴ cm/sec or greater. In addition, any groundwater which is determined by the IEPA, pursuant to petition procedures set forth in Section 620.260, to be capable of potable use is also considered Class I. The groundwater of the intermediate depth water bearing zone is located below a depth of ten feet, however, none of the additional Class I criteria have been met. A discussion in support of intermediate depth groundwaters being Class II is presented below.

A conversation with Mr. Sonny Stamacakis of the Village of Melrose Park Building Department indicated that there were no public supply wells presently in use, nor had there been for an extensive period of time in the Village of Melrose Park. Additionally, the installation of new private wells is prohibited under the provisions of Ordinance No. 321 signed by the Village of Melrose Park president on November 24, 1997. The Village of Melrose Park receives all of its publicly supplied water from the City of Chicago water system which uses Lake Michigan as the source of potable water. Therefore, no portion of the Bodycote site is within the setback zone of either a private well or public supply well (200 and 400 feet, respectively). Extensive information on private wells in the vicinity of the Bodycote site was previously provided in a report submitted to IEPA entitled "Continuing Site Investigation Report" and dated December 2, 1994.

The intermediate depth water bearing zone was observed to be located within unconsolidated material (no bedrock was encountered at the site) and the maximum observed thickness of the intermediate water bearing zone was observed to be approximately 3 feet, which is less than the 5-foot criterion. It was observed during yield testing conducted on wells M&A-110 and M&A-113 between September 9, 1997 and September 11, 1997 that these intermediate depth wells are not capable of yielding the Class I criterion of 150 gallons of water per day. More recent testing in May 2006 continued to corroborate that the intermediate wells exhibit yield rates less than 150 gallons of water per day.

Laboratory permeability testing on a soil sample collected on-site by Shelby Tube from monitoring well/boring MW-10 was performed during the completion of a report previously submitted to IEPA entitled. "RCRA Container Storage Area Closure, Additional Soil Sampling and Groundwater Classification" and dated July 28, 1992. The permeability testing by triaxial chamber and back pressure saturation measured the hydraulic conductivity at 6.22 x 10⁻⁹ cm/sec. The soil sample collected from 36 to 37 feet is representative of the gray silt and clay observed beneath the Bodycote site, and is not associated with a water bearing sand zone.

Examination of the criteria under Section 620.230 for Class III, Special Resource Groundwater, and Section 620.240 for Class IV, Other Groundwater, were also reviewed and determined not to be applicable to the Bodycote site. Since the site is located in an industrial area far from sensitive or special resource environments, and the groundwater is not demonstrably unique, Class III does not apply. Class IV applies to certain special cases, which do not appear to exist at the Bodycote site. Based on this information, intermediate depth groundwater meets applicable Class II criteria.

IV. INITIAL PCB OBSERVATIONS

In May 2000, PCBs were discovered during routine profiling and disposal of nine drums of recovered groundwater/DNAPL from M&A-113. Of those nine drums, Aroclor 1248 was detected in the organic layer of eight drums at concentrations ranging from 341 mg/kg to 516 mg/kg. These detections of PCBs were above Illinois State and Federal PCB regulations and therefore further sampling for PCBs was initiated in September 2000. An in-depth file review was performed of all Bodycote Facility, State Fire Marshall, Village of Melrose Park Fire Department, Village of Melrose Park Building Department and Health Office records. No records were located documenting PCB use, spills, or PCB containing equipment on Site. Bodycote personnel were also interviewed for any knowledge regarding PCB spills or PCB containing equipment, and none were identified.

In response to the detections in May 2000, M&A sampled NAPL occurring in wells M&A-113 and M&A-111 in September 2000. Laboratory results indicated Aroclor 1248 at concentrations of 1,600 mg/kg and 3,308 mg/kg respectively. Upon further corroboration of laboratory results, M&A decided to initiate a PCB groundwater sampling round in 2002. Seven groundwater monitoring wells were included in this sampling event in October 2002. Of those seven wells sampled, PCBs were detected in four wells at concentrations ranging from 1.6 ug/L to 600 ug/L. The IEPA TACO Tier I standard for PCBs in groundwater is 2.5 ug/L.

M&A decided at this juncture to continue sampling both groundwater and NAPL for PCBs in order to obtain additional data necessary for formulating a PCB action/work plan. The summary of laboratory results can be viewed in Tables 1 and 2.

During May 2004 Site visit, M&A sampled NAPL occurring in wells M&A-113, M&A-114, and M&A-301. Laboratory results indicated the presence of Aroclor 1248 at concentrations of 946, 1.72, and 0.67 mg/kg respectively. During this Site visit M&A also sampled groundwater from thirteen monitoring wells in the HTB. Laboratory results indicated an elevated presence of Aroclor 1248 in four of the thirteen sampled; M&A-103, M&A-112, M&A-110, and M&A-113. Concentrations of Aroclor 1248 in groundwater ranged from 4.99 ug/L to 15.8 ug/L. These levels were all above the IEPA TACO Tier I Standard of 2.5 ug/L.

A review of applicable regulations was performed in the summer of 2005 by M&A personnel in order to determine a comprehensive plan of action in relation to the detections of PCBs in groundwater and NAPL. TSCA 40 CFR Part 761.62 discusses the handling of PCB remediation waste and chapter 35 Part 721 of the Illinois Administrative Code discusses identification and listing of hazardous waste. 40 CFR Part 761.61 states that self-implementing procedures (without approval) may not be used to clean up groundwater, amongst other media. Prior to the commencement of any remedial activities written approval of the clean up plan from the EPA is required.

In October 2005, M&A contacted Ms. Priscilla Fonseca (Region V EPA) in regards to the actions necessary to begin clean up activities and/or continue contaminant delineation activities at the facility. Ms. Fonseca informed M&A that Bodycote must file a "Notice of PCB Activity" (Form #7710-53) and must file a PCB Action/Work Plan. Form #7710-53 was appropriately filed on November 8, 2005 and the PCB Action Plan is described herein.

Upon further coordination with IEPA, a Mr. James Clark performed an on-Site audit to aid in evaluating-determining potential sources of PCB contamination. Based on the results of his investigation, Mr. Clark suggested that since no records of PCB use at the facility were located, and no transformers or equipment currently or historically existed on-Site that contained PCBs, the source of contamination may never be determined. Mr. Clark did however recommend the installation of 2-4 additional monitoring wells in the northwest portion of the HTB and to perform a more in-depth sampling round to further delineate the contamination zone. Refer to Appendix B for Inspection Documentation.

As the previous round of sampling for PCBs was performed in 2004, and upon further discussions with Ms. Fonseca, M&A determined in the winter of 2005 that a more comprehensive round of PCB sampling was necessary in order to formulate an appropriate course of action for submittal to the EPA with regards to the cleanup of PCB contamination at the Site. This sampling was performed in April/May 2006.

V. RECENT SAMPLING

In April 2006, during the semi-annual groundwater monitoring program, a total of eighteen groundwater wells and three monitoring wells containing NAPL were sampled for PCBs. The analytical data obtained during this sampling event was compared against previous data in order to determine aerial extent of PCB contamination. Based on these data, it appears that remedial activities undertaken at the Site for the cleanup of NAPL have had a positive impact on the removal of PCB mass present in the subsurface.

As seen in Table 1 and 2, historic concentrations of PCBs were detected above the TACO Tier 1 remedial standard of 2.5 ug/L in numerous wells at the Site. During the April 2006 sampling event, PCBs were detected above the TACO Tier I standard in only two of the eighteen groundwater locations sampled, M&A-110 and M&A-113. M&A-113 showed a detection of Aroclor 1242 at 16.3 ug/L and M&A-110 showed a detection of Aroclor 1242 at 5.92 ug/L. PCB concentrations in the remaining locations had decreased significantly to below method detection limits.

During the April/May event any monitoring wells containing NAPL were also sampled for PCBs. As seen in Table 2, NAPL was observed in three monitoring wells. M&A-113 contained DNAPL, and M&A-114 and MCA-2 contained LNAPL. During historic sampling events, highly elevated concentrations of Aroclor 1248 were found in M&A-111 and M&A-113. Recently, M&A-111 has no longer exhibited NAPL contamination and therefore NAPL has not been present for collection of subsequent PCB testing. The sample taken from M&A-113 yielded no PCB detections. PCBs were detected in NAPL sampled from M&A-114, at a concentration of 41.4 mg/kg. This value is elevated from the previous sample obtained in 2004, which indicated PCB concentrations of 1.72 mg/kg.

VI. SAMPLING PROCEDURES

Shallow and intermediate groundwater wells were sampled and analyzed for PCBs according to EPA Method 8082. Free phase NAPL was also sampled for PCBs according to EPA Method 8082. Drawing L-1 presents monitoring well locations.

Historically, samples were collected via hand bailing approximately three (3) well volumes of standing water from each well using a pre-cleaned disposable polyvinyl chloride (PVC) bailer and sampling. Samples were collected, placed in a cooled container, and submitted under chain of custody documentation to TestAmerica Incorporated, Nashville, TN for laboratory analysis.

Due to the low solubility of PCBs in water it was decided to perform low flow sampling during the April/May 2006 sampling event to minimize the amount of sediment, if any, which was entering the samples. Low flow sampling can be considered a more appropriate method for sampling groundwater for PCBs. Prior to sampling, purged groundwater was monitored for pH, conductivity, turbidity, and flow rate. Once groundwater parameters stabilized for three consecutive sets of readings, water samples were collected from Teflon-lined tubing. Samples were collected, placed in a cooled container, and submitted under chain of custody documentation to TestAmerica Incorporated, Nashville, TN for laboratory analysis.

VII. NATURE AND EXTENT OF THE CONTAMINATION

As previously documented in Sections IV and V of this report, groundwater and NAPL sampling has occurred at various wells located throughout the HTB. Based on this information the highest concentrations of the PCB contamination continues to be present in the NAPL located at well M&A-114 and in groundwater at well M&A-113 and M&A-110 (see Tables 1 and 2). Drawing L-6 depicts the limited area of PCB groundwater and NAPL contamination at the Site.

Based on geological formation explorations performed by M&A to date and upon corroboration of those data with current hydrogeologic data and many years of groundwater quality data, the migration of groundwater contaminants off the property is not considered likely. In-situ groundwater recovery rates were measured in four shallow monitoring wells and one intermediate monitoring well utilizing MiniTroll® pressure transducers. All recovery rates observed were less than 0.75 gallons per day. Thus re-confirming low conductivity rates that were ascertained in the late 1990's.

VIII. FUTURE EXPLORATION/REMEDIAL ACTIONS

Due to the low permeability, low hydraulic conductivity (6.22 x 10⁻⁹ cm/sec), and low recovery rates (<0.75 gal/day) observed on Site, M&A does not feel that there is an appropriate remedial action that will remove PCB from the subsurface in the short term. M&A has performed ongoing NAPL removal efforts at the Site for 5+ years which have reduced NAPL occurrence and would appear to be an effective means at additional PCB reductions. Based on available information and ongoing consultation with the IEPA in regards to aerial extent of PCB contamination, M&A proposes the installation of 2-3 additional monitoring wells in the northwest region of the HTB and 1-2 monitoring wells outside the northwestern wall of the HTB during Fall 2006 to confirm the extent of PCBs. Upon completion of installation M&A would conduct another full comprehensive round of groundwater and NAPL sampling utilizing low flow sampling techniques to corroborate our April/May data in Fall 2006.

Based upon results obtained from the sampling event, M&A recommends allowing Bodycote Thermal Processing to:

- Continue with its Voluntary Cleanup Program under IEPA in regards to LNAPL and DNAPL recovery efforts to the maximum extent practicable; continued removal of LNAPL and DNAPL will likely result in further reductions in PCB contamination at the Site;
- O Maintain constructed engineered barriers, utilizing existing concrete slab flooring currently present over areas of residual soil impacts, to eliminate potential exposure via the industrial/commercial inhalation and ingestion pathways to the limits specified in IEPA conditional approval letters;
- Ongoing periodic training of Bodycote Thermal Processing involved in the project as to appropriate PCB waste management procedures.

Based on analytical data trends observed to date, M&A proposes that continued NAPL recovery serves as the most feasible course of action for PCB contamination removal. M&A recommends continued NAPL recovery to the maximum extent practicable coupled with long term monitoring and data analysis. All PCB contaminated NAPL and/or groundwater wastes removed from the subsurface will be disposed of at an appropriate permitted facility.

IX. CONTINGENCY PLAN

Based on analytical results obtained during future sampling events, if concentrations of PCBs increase drastically new NAPL/groundwater recovery methodologies may be implemented consisting of either:

- Total Fluid Recovery install several recovery pumps at select locations to recover and prevent the migration of contaminated groundwater. Groundwater and NAPL will be extracted from the subsurface, transferred to a holding tank and subsequently transported off Site to an appropriate disposal facility.
- Induced Negative Vacuum supplying a slight negative pressure to NAPL containing monitoring wells. The slight negative pressure would increase NAPL production without inducing increased groundwater flow to those wells. Hand bailing of LNAPL would be performed on a routine basis. NAPL would be place in an appropriate container and disposed of appropriately.

X. SUMMARY -

- O A comprehensive geologic exploration was performed by M&A in the late 1990's to develop a Conceptual Site Model (CSM), data from this geologic exploration was used in conjunction with more recent exploration data and determined that aquifer characteristics signify a low potential for contaminant migration due to low hydraulic conductivities (6.22 x 10⁻⁹ cm/sec) and low recharge rates (<0.75 gal/day);
- o A Remedial Action Plan was submitted and approved for TCE and NAPL contamination remediation of the Site by IEPA in 2000;
- o PCBs were initially detected in NAPL during routine profiling of remedial wastes;
- Supplemental groundwater/NAPL sampling performed following that initial discovery indicates a decreasing PCB occurrence trend;
- o M&A recommends installation of 4-5 additional monitoring wells to confirm the nature and extent of PCB contamination and to further verify that PCBs are not migrating off Site through a preferential pathway;
- o M&A recommends the continued removal of NAPL to the maximum extent practicable coupled with long term monitoring, maintenance of engineered barriers already in existence, and implementation of a deed restriction for the contaminated area as the remedial action for PCBs observed at the Site.

TABLE 1 BODYCOTE THERMAL PROCESSING HEAT TREATMENT BUILDING SUMMARY OF GROUNDWATER LABORATORY ANALYTICAL RESULTS

	Samples		Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
	er I Standa		2,5	2,5	2.5	2,5	2.5	2.5	2.5
WELL	AQUIFER	DATE	(ug/L)	(vg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MCA-2	Shallow	10/02/2002	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MICA-2	Shallow	10/23/2003	< 0.5	< 1.0	< 0.5	< 0.5	< 0,5	< 0,5	< 0.5
		4/18/2006	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
		5/18/2004	< 0.5	< 1.0	< 0.5	< 0.5	< 0,5	< 0,5	< 0.5
MCA-5	Shallow	4/17/2006 ⁽²⁾		<u>-</u>					-
		5/15/2006	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
M&A-103	Shallow	5/18/2004	< 0.5	< 1.0	< 0,5	< 0,5	4.99	< 0.5	< 0.5
		4/17/2006	< 1.0	< 1.0	< 1.0	< 1,0	< 1.0	< 1.0	< 1.0
		10/02/2002	< 0.5	< 1.0	< 0.5	1.6	< 0.5	< 0.5	< 0.5
M&A-104	Shallow	10/23/2003	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	J	5/18/2004	< 0.5	< 1.0	< 0.5	< 0,5	< 0.5	< 0.5	< 0.5
		4/17/2006	< 1.0	< 1.0	< 1,0	< 1.0	< 1.0	< 1.0	< 1.0
		10/02/2002	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
M&A-105	Shallow	10/22/2003	< 0,5	< 1,0	< 0,5	< 0.5	< 0.5	< 0,5	< 0.5
		4/19/2006	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
M&A-106	Shallow	5/15/2006	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
11D 1 400	5	5/18/2004	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
M&A-109	Deep	4/17/2006 ⁽¹⁾	-	-	-	-	-	-	-
	intermed	5/18/2004	< 0.5	< 1.0	< 0,5	< 0.5	12.2	< 0,5	< 0.5
M&A-110		4/17/2006 ⁽¹⁾	- 0,0	- 1,0	-	- 0,0	-		10.0
		5/15/2006	<0,4	<0.4	<0.4	5.92	<0.4	<0.4	<0.4
	Intermed	10/02/2002	< 25	< 50	< 25	600	< 25	154	< 25
							3.73	****	
M&A-111		10/23/2003	< 0.5	< 1.0	< 0.5	< 0.5		< 0.5	< 0.5
•		5/18/2004	< 0.5	< 1.0	< 0.5	< 0.5 < 1.0	< 0.5	< 0.5	< 0.5
	-	4/18/2006	< 1.0	< 1.0	< 1.0	ACTUAL CO. 12770	< 1.0	< 1.0	< 1.0
		10/02/2002	< 0.5	< 1.0	< 0.5	5.9	< 0.5	2.8	< 0.5
M&A-112	Shallow.	10/23/2003	< 1.0	< 2.0	< 1.0	< 1.0	17.7	9.04	< 1.0
		5/18/2004	< 0.5	< 1.0	< 0.5	< 0.5	13.3	< 0.5	< 0.5
	ļ	4/18/2006	< 1.0	< 1,0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
M&A-113	Intermed	5/18/2004	< 0.5	< 1.0	< 0.5	< 0.5	-15.8	< 0.5	< 0.5
		4/19/2006	< 1.0	< 1.0	< 1.0	16.3	< 1.0	< 1.0	< 1.0
M&A-114	Shallow	10/02/2002 4/17/2006 ⁽³⁾	< 0.5	< 1.0	< 0,5	16.8	< 0.5	13,8	< 0,5
	 	1				-	 		
M&A-115	Intermed	10/02/2002	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MODELLO	memeo	10/23/2003	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		4/19/2006	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
110 8 446	Shallow	5/18/2004	< 0.5	< 1.0	< 0.5	< 0,5	< 0.5	< 0.5	< 0.5
M&A-116		4/18/2006	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
		5/15/2006	<0,4	< 0.4	<0.4	<0.4	<0.4	<0.4	<0.4
M&A-119	Intermed	5/18/2004	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0,5	< 0.5
	1	4/18/2006	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
M&A-121	Intermed	5/18/2004	< 0.5	< 1.0	< 0.5	< 0,5	< 0.5	< 0.5	< 0.5
		4/18/2006	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
M&A-122	Intermed	5/18/2004	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
		4/19/2006	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
M&A-124	Shallow	5/15/2006	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
M&A-126	Intermed	5/18/2004	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Infort, FC0	niterrited	4/18/2006	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
M&A-301	Shallow	4/19/2006	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Notes:

ug/L - micrograms per liter

ug/L - micrograms per liter
PCBs analysis performed via EPA Method 8082
TACO - Tiered Approach Toward Corrective Action
TACO Tier I Standards based on the Illinios Environmental Protection Agency Title 35. Admin Code 742.505
Tier 1 Remediation Objectives for Class II Groundwater
Tier 2 GROs must be established for compounds exceeding Tier 1 Standards
Shading indicates compound exceeds established TACO Tier I standard.

BOLD values indicate compound was detected

(1) Not sampled, well was dry.

(2) Not sampled, insufficient water recharge to complete sampling.

(3) Not sampled, well contained no water, only Free Product

Aquifer = portion of the aquifer the monitoring well is screened in; Shallow ~2-12', Intermediate ~23-35'

Deep ~ 39.5-49.5'

- = Not Sampled

\$;\ADMINA\1998002\PCB_HTB Tables 1_2_3_8-06

TABLE 2 BODYCOTE THERMAL PROCESSING HEAT TREATMENT BUILDING SUMMARY OF NON AQUEOUS PHASE LIQUID LABORATORY ANALYTICAL RESULTS

PCBs			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
WELL	AQUIFER	DATE	(mg/kg)						
M&A-111	Intermed	9/19/2000	<0.05	<0.05	<0.05	<0.05	3,308	<0.05	<0.05
	Intermed	9/19/2000	<50	<50	<50	<50	1,600	<50	<50
M&A-113		5/17/2004	< 50	< 50	< 50	< 50	946	< 50	< 50
		4/19/2006	< 0.0326	< 0.0326	< 0.0326	< 0.0326	< 0.0326	< 0.0326	< 0.0326
M&A-114	Shallow	5/17/2004	< 0.05	< 0.05	< 0.05	< 0.05	1.72	< 0.05	< 0.05
Max-114	Grianow	4/17/2006	< 0.128	< 0.128	< 0.128	< 0.128	41.4	< 0.128	< 0.128
M&A-301	Shallow	5/17/2004	< 0.5	< 0.5	< 0.5	< 0.5	0.67	< 0.5	< 0.5
WA-301		4/19/2006	-	-	-	-	-	-	-
MCA-2	Shallow	5/17/2004	-	-			-	-	· -
		4/17/2006	< 0.132	< 0.132	< 0.132	< 0.132	< 0.132	< 0.132	< 0.132

Notes:

mg/kg - milligrams per killigram.

PCBs analysis performed via EPA Method 8082

Shading indicates compound was detected in NAPL.

Aquifer = portion of the aquifer the monitoring well is screened in; Shallow ~2-12', Intermediate ~23-35' Deep ~ 39.5-49.5'

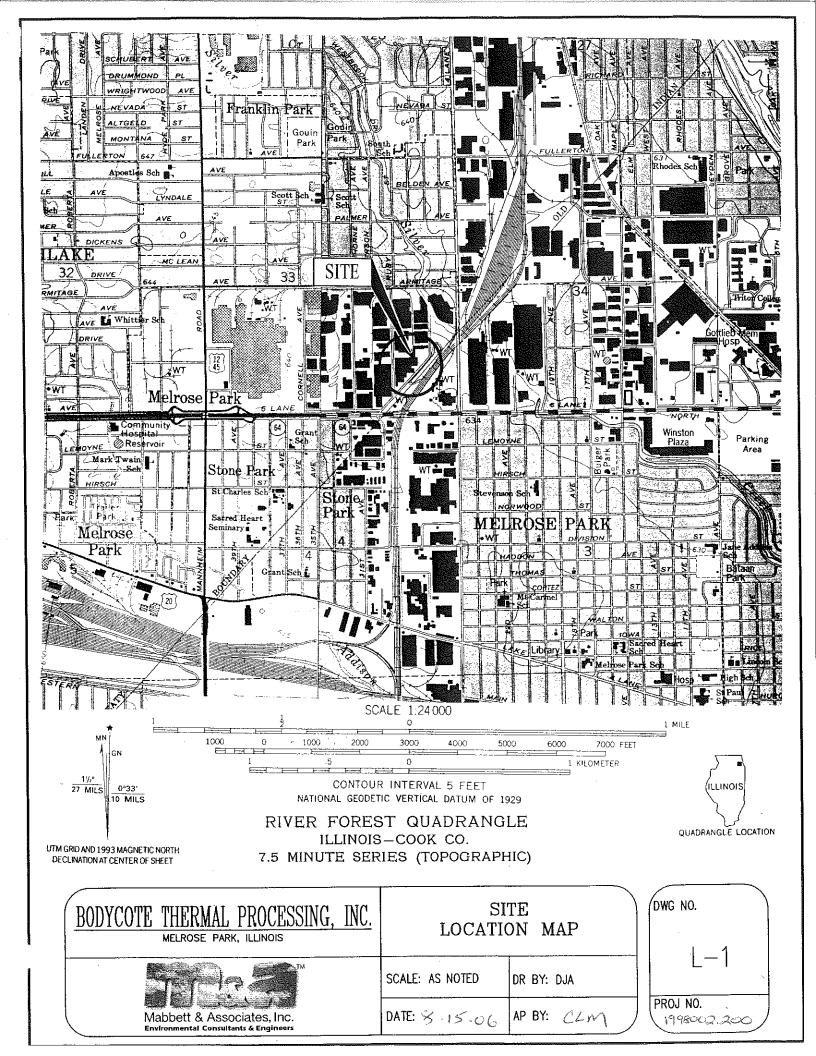
~ = no product observed/available to sample

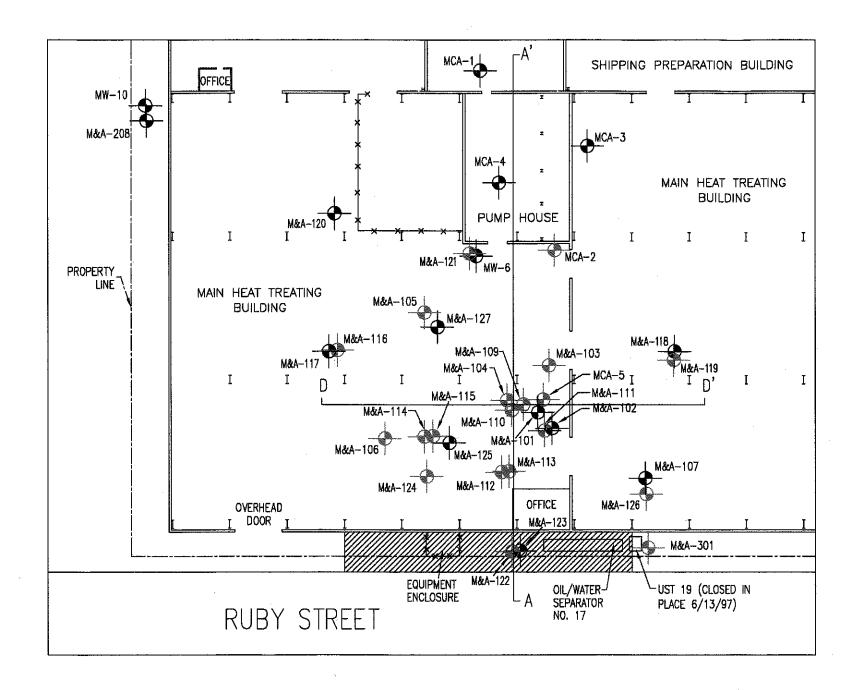
TABLE 3
BODYCOTE HTB
MELROSE PARK, IL
APRIL 2006 GROUNDWATER ELEVATIONS

Well#	TOC	DTB	DTW	Actual DTB	GWE	
MCA-2	634.45	10.99	4.35	10.95	630.1	
MCA-3	634.51	7.67	4.02	7.7	630.5	
MCA-4	634.34	9.75	2.9	10	631.4	
MCA-5	634.49	7.79	6.5	7.8	628.0	
M&A-101	634.48	20	18.65	19.2	615.8	
M&A-103	634.53	13.5	9.95	12.9	624.6	
M&A-104	634.53	12	7.12	11.9	627.4	
M&A-105	634.57	12	4.35	11.6	630.2	
M&A-106	634.56	13	6.92	12.5	627.6	
M&A-107	634.52	12	11.8	11.85	622.7	
M&A-109	634.52	49	dry	48.5	-	
M&A-110	634.52	30	dry	29.8		
M&A-111	634.39	· 33	27.81	32.8	606.6	
M&A-112	634.47	15	8.98	15.2	625.5	
M&A-113	634.47	33	Tied into D	o DNAPL Recovery System		
M&A-114	634.49	- 15	14.05	15.4	620.4	
M&A-115	634.48	33	28.31	33	606.2	
M&A-116	634.48	15	6.02	15.1	628.5	
M&A-117	634.48	30	28	29.7	606.5	
M&A-118	634.47	14.5	5.82	-	628.7	
M&A-119	634.46	34	28.6	33.5	605.9	
M&A-120	634.47	15	3.9	14.8	630.6	
M&A-121	634.49	33	31.35	33.3	603.1	
M&A-122	632.99	33	26.1	33	606.9	
M&A-123	632.91	46.5	dry		-	
M&A-124	634.49	15.5	7.5	15.2	627.0	
M&A-125	634.47	49	dry	49		
M&A-126	634.45	35	27.55	34.25	606.9	
M&A-127	634.52	. 30	28.83	29.9	605.7	
M&A-208	-	15	5.5	-		
M&A-301	633.46	13	8.16	13	625.3	
M&A-302	633.41	13	5.25		628.2	

NOTES: -= Not Gauged

FIGURES





NOTES:

- 1. MONITORING WELL AND BORING LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
- 2. MONITORING WELL AND BORING LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

LEGEND:



MONITORING WELL LOCATION

MONITORING WELL SAMPLED FOR PCB's

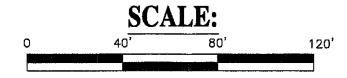
APPROXIMATE PROPERTY LINE

CHAIN LINK FENCE

SUPPORTING COLUMN

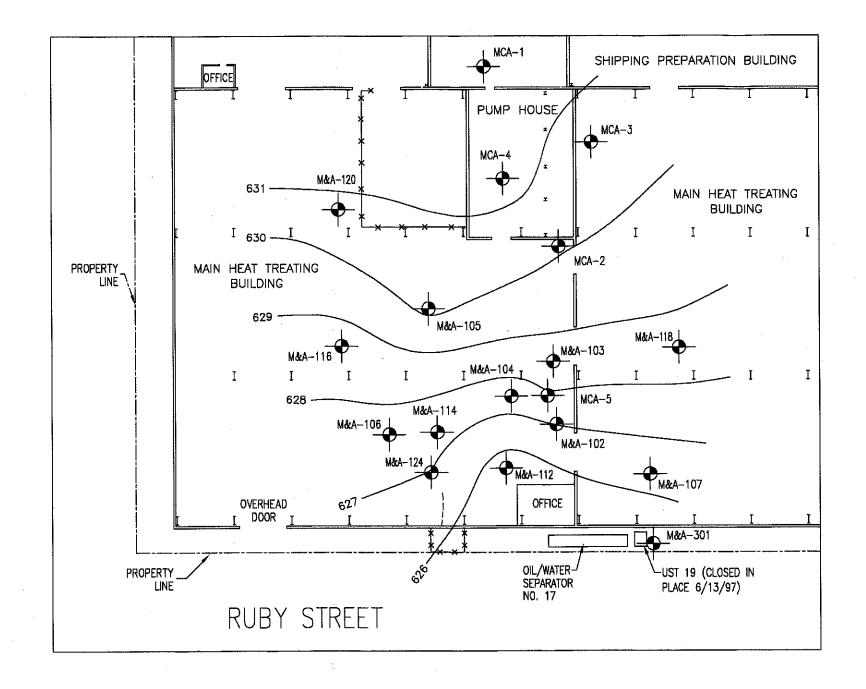
ENGINEERED BARRIER: CONCRETE SLAB





BODYCOTE THERMAL PROCESSING, INC. MELROSE PARK, ILLINOIS	HEAT TREATMEN PCB MONITORING W	DRAWING NO.	
TH	SCALE: 1"=40'-0"	DR BY: DJA	L-2
Mabbett & Associates Environmental Consultants & Englisers	DATE: 8-12-66	AP BY:	PROJECT NO. 1998002.200

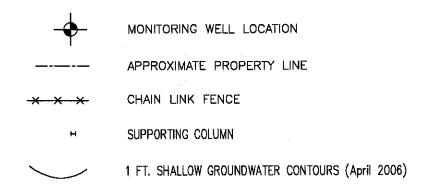
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NOTES:

- 1. MONITORING WELL LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
- 2. MONITORING WELL LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

LEGEND:



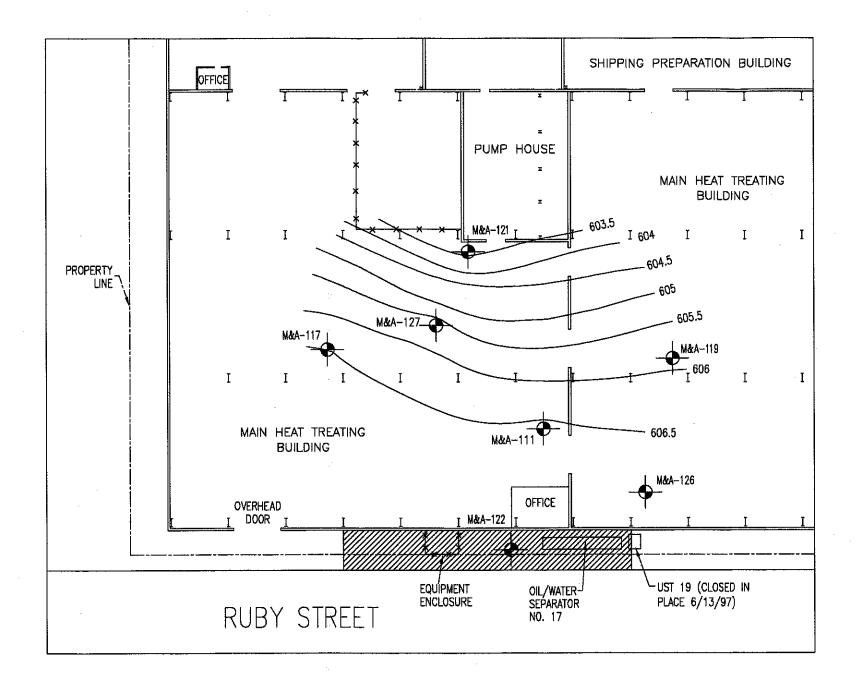




BODYCOTE THERMAL PROCESSING, INC. MELROSE PARK, ILLINOIS	SHALLOW GRO ELEVATION C	DRAWING NO.	
714	SCALE: 1"=40'-0"	DR BY: DJA	L-4
Mabbett & Associates Environmental Consultance & Engineers	DATE: 8.15.06	AP BY: CLM	PROJECT NO. 1998002.200

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NOTES:

- 1. MONITORING WELL AND BORING LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
- 2. MONITORING WELL AND BORING LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

LEGEND:

MONITORING WELL LOCATION

APPROXIMATE PROPERTY LINE

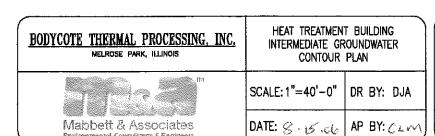
CHAIN LINK FENCE

SUPPORTING COLUMN

ENGINEERED BARRIER: BITUMINOUS CONCRETE

.5 FT. INTERMEDIATE GROUNDWATER CONTOURS (April 2006)

SCALE:40' 80' 120'



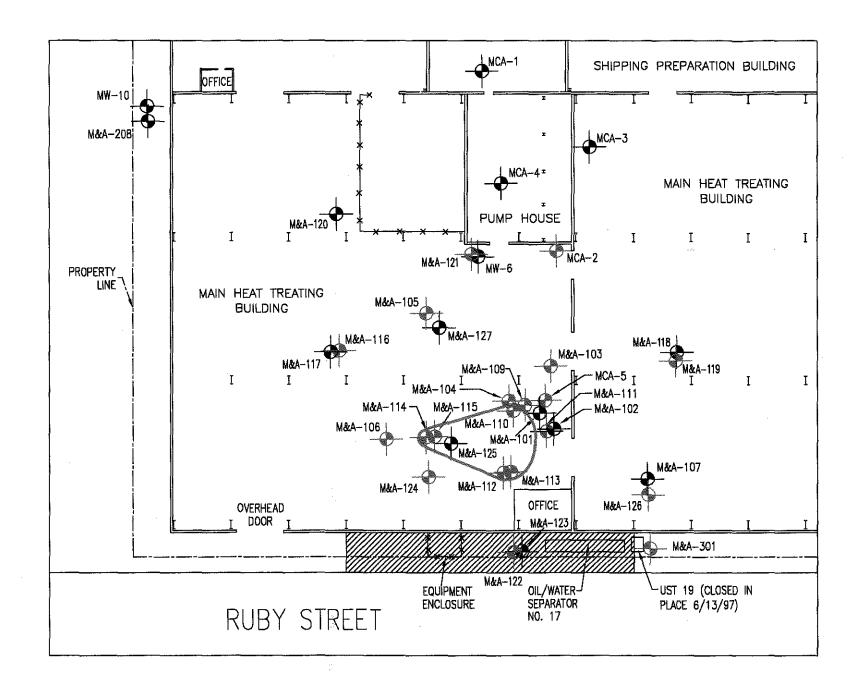
DRAWING NO.

L-5

PROJECT NO.

1998002.200

Copyright, 2006





NOTES:

- 1. MONITORING WELL AND BORING LOCATIONS INSTALLED PRIOR TO 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY M&A PERSONNEL.
- 2. MONITORING WELL AND BORING LOCATIONS INSTALLED DURING AND AFTER 1997 ARE BASED ON FIELD MEASUREMENTS TAKEN BY AN ILLINOIS REGISTERED LAND SURVEYOR.

LEGEND:



MONITORING WELL LOCATION



MONITORING WELL SAMPLED FOR PCB's



APPROXIMATE PROPERTY LINE



SUPPORTING COLUMN

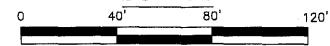


ENGINEERED BARRIER: BITUMINOUS CONCRETE



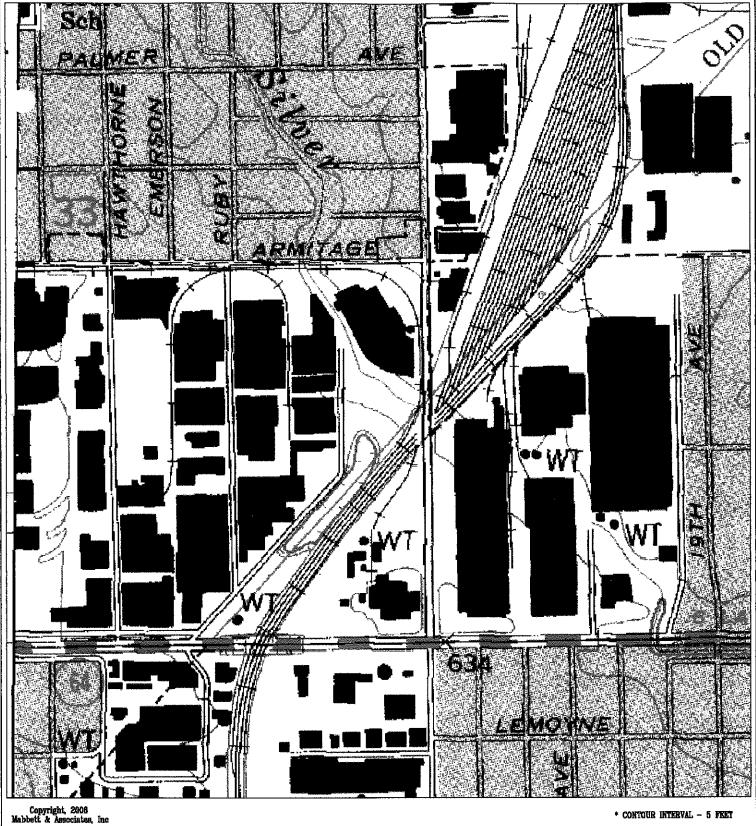
AREA OF PCB GROUNDWATER/NAPL CONTAMINATION

SCALE:



BODYCOTE THERMAL PROCESSING, INC. MELROSE PARK, ILLINOIS	AREA OF PCB CONT	AREA OF PCB CONTAMINATION PLAN		
П	SCALE: 1"=40'-0"	DR BY: DJA	L-6	
Mabbett & Associates Environmental Consultance & Englishers	DATE: 8.15.06	AP BY: CLAY	PROJECT NO. 1998002.200	

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BODYCOTE THERMAL PROCESSING, INC. MELROSE PARK, ILLINOIS	SITE TOPOG	
TIM B I	SCALE: 1"=200'	DR BY: DJA

Mabbett & Associates

DATE: 8.14.06 AP BY: CLM

DWG NO.

PROJ NO. 1998002.200 APPENDIX A
BORING LOGS
AND
MONITORING WELL INSTALLATION LOGS

PRO IECT	CHENT UN	DBERG HEAT					MELROSE PARK, IL PROJ. NO. 87024.82	BORING NO
ORING L	WELL NO. M&A-111							
SITE	NO. 0311860	SEE SITE PLAN DATE START/FINISH 8/11/97 8/11/97 11860001 COUNTY COOK FEDERAL ID. NO. IDL005071808 VER FOREST, IL SECTION 33.2b T. 40N R. 12E DRILLING EQUIPMENT 4 1/4" ID HOLLOW STEM AUGER						
QUADRAN	GLE RIVER I	OREST, IL	SECTION .	33.2b	PG.1 OF 3			
							FOREMAN DENNIS	
SKOUNDM	AIER EL./DEF	SAMP			LUGGED BY _	GGL	CHECKED BYDJS DATE10/6/97	
EPTH FT.	TYPE and NO.	BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	- REMARKS	SOIL AND ROCK DESCRIPT	IONS
							CONCRETE	
_ 1	223							_
		3						_
	SS-1	4	24	16	120	NO ODOD		-
2 	33-1	8	24	10	120	NO ODOR	(FILL) DAMP, VERY STIFF, GRAY/TAN S UTTLE COARSE SAND, UTTLE FIN GRAVEL, TRACE BLACK MATERIAL	ie to medium = [
- 3		3					<u>",1" </u>	
	N	3			10-			1
· 4	SS-2	4	24	14	180	NO ODOR HORIZONTAL	(LACUSTRINE) DAMP, STIFF, TAN/YELLOW SILT	, SOME CLAY,
		_				AND	LITTLE COARSE SAND, LITTLE F	INE GRAVEL
- 5		5				DIAGONAL FRACTURING		\exists
		3						+
· 6	\$\$-3	5	24	18	260	SLIGHT SOLVENT ODOR	(LACUSTRINE) DAMP, STIFF, GRAY SILT, SOME COARSE SAND, TRACE FINE GR	
- 7		7				TAN/YELLOW MOTTLING WET DIAGONAL FRACTURING		
								-
- 8	SS-4	5	24	18	310	SOLVENT ODOR	(LACUSTRINE) SIMILAR TO SS-3	$\vec{\bot}$
L		7						-
L.		8						_
- 9		8						_
H ⁻								_
⊢ - 10 _:	SS-5	9	24	10	240	SOLVENT ODOR WET DIAGONAL FRACTURING	(LACUSTRINE) SIMILAR TO SS-3	-
F 11		11				TOTOTOMINO		_
' - 11	M	3						
1	Ŋ							-
12	SS-6	7	24	3	300	SOLVENT ODOR	(LACUSTRINE) MOIST, STIFF, GRAY SILT, SOMI FINE GRAVEL, TRACE COARSE	
L	N	7	1				•	_ <u></u>
- 13		,]					
1	7	2	24	12	220	COLVENT ODGO	(LACUSTRINE) DAMP, STIFF, GRAY CLAY, SOM	
14	\$S-7	2	24	12	220	SOLVENT ODOR	COARSE SAND, TRACE FINE GR	RAVEL
'OM2 'DE	R 6" =140 LB	HANNER FAL		DRIVE A	2.0 IN. 0.0.		ROD=LENGTH OF SOUND CORES >4 IN./LENGT	TH CORED.%

SPLIT SPOON SAMPLER

"EN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC=RECOVERY LENGTH OF SAMPLE SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER
HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID,
EQUIPPED WITH 10.2 eV LAMP.

DEPTH=DEPTH BELOW GROUND SURFACE (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Mossochusetts 01730 • (617) 275-6050 • Fax:(617) 275-5651

PROJECT/CLI	ENT UND	BERG HEAT	TREATING C	OMPANY		LOCATION	MELROSE PARK, IL PROJ. NO. 87024.82 BORING NO.				
RING LOCA	ATION _S	EE SITE PLA	N			DATE STA					
SHE F	RIVER F	001 C	SECTION SECTION	33.2b	FEDEI 40NR	RAL ID. NO. <u>IDLO</u> 12E DRILLING FO	DIPMENT 4 1/4" ID HOLLOW STEM AUGER PG. 2 OF 3				
DUND ELE	VATION (NO	SVO)			CONTRACTOR	ONTRACTOR D&G DRILLING, INC. FOREMAN DENNIS					
OUNDWATE	ER EL./DEP				LOGGED BY	GGL	CHECKED 8Y DJS DATE10/6/97				
EPTH FT.	TYPE and NO.	SAMF BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS	SOIL AND ROCK DESCRIPTIONS				
		3				HORIZONTAL					
· · · · · · · · · · · · · · · · · · ·		7	: 			FRACTURING					
15											
		2									
16	SS-8		24	18	22	SUGHT	(LACUSTRINE) MOIST, STIFF, GRAY CLAY, SOME SILT, TRACE COARSE SAND, TRACE FINE GRAVEL.				
						SOLVENT ODOR	SOME STORY, INTO THE STORES				
17		6									
		6		ļ							
10	SS-9	8	24	24	18.0	NO ODOR	(LACUSTRINE) DAMP, VERY STIFF, GRAY CLAY AND SILT, TRACE —				
18	33.3	10	2,	-	, , , ,	MOIST	COARSE SAND, TRACE FINE GRAVEL.				
		10	ļ			DIAGONAL/ HORIZONTAL					
19		3].			FRACTURING					
		6 .				1					
20	SS-10	18	24	24	2.5	NO ODOR	(LACUSTRINE) SIMILAR TO SS-9				
-	3										
21		29	ļ								
		23					<u> </u>				
- 22	SS-11	38	24	22	9.5	NO ODOR SHALY	(LACUSTRINE) DAMP, VERY DENSE, GRAY VERY FINE SAND AND				
_		67				CLEAVAGE & HORIZONTAL	SILT, TRACE COARSE SAND. —				
23		75				FRACTURING FOR ENTIRE FINE	- -				
25		20				SAND STRATUM					
-	3	20		20	0.0	NO 0000	(LACUSTRINE) SIMILAR TO SS-11				
24	SS-12	27	24	22	0.0	NO ODOR	(LACOSTRINE) SIMILAR TO 33-11				
-		28			ŀ		<u> </u>				
— <u>2</u> 5		7									
_		7				NO ODOR HORIZONTAL	(LACUSTRINE) DAMP, STIFF GRAY SILT, LITTLE CLAY, LITTLE COARSE SAND, TRACE FINE TO MEDIUM GRAVEL.				
26	SS-13		24	20	0.0	DIAGONAL FRACTURING	SOMESE STATE, THIS OF THE TO INCOME.				
		22				TIMOTOMINO	(LACUSTRINE) SIMILAR TO SS~11				
- - 27	4	22				NO ODOR	(LECUCTORIE) DAVIS LOGGE STATES (MAINTE ALSONIAL CAND				
		8				NO ODOR	(LACUSTRINE) DAMP, LOOSE, BLACK/WHITE MEDIUM SAND, TRACE SILT.				
28	SS-14	16	24	22	1.5						
	SPUT :	. HAMMER FA SPOON SAMPL	.ER				ROD=LENGTH OF SOUND CORES >4 IN./LENGTH CORED,%				
	=PENETRATI	on Length o	F SAMPLER	OR CORE	BARREL		DEPTH=DEPTH BELOW GROUND SURFACE (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)				
	SPLIT SP00		CC				₩ATER TABLE (APPROX)				

S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP.

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PROJECT/CUENT UNDBERG HEAT TREATING COMPANY LOCATION MELROSE PARK, IL PROJ. NO. 87024.82 BORING										
RING LO		SEE SITE PLA			DATE START/FINISH 8/11/97 / 8/11/97 FEDERAL ID. NO. IDL005071808 DO 7 OF 7					
E P'S	NO. 031186	FOREST II	CCCTION	33.2h	FEDEI	RAL ID. NO. <u>IUU</u> 12E - DBULING GO	DIPMENT 4 1/4" ID HOLLOW STEM AUGER PG. 3 OF 3			
QUADI. SLE RIVER FOREST, IL SECTION 33.2b T. 40N R. 12E DRILLING EQUIPMENT 4 1/4" ID HOLLO OUND ELEVATION (NGVD) CONTRACTOR D&G DRILLING, INC. FOREMAN DENNIS						FOREMAN DENNIS				
OUNDWA	TER EL/DE	PTH			LOGGED BY _	GGL	CHECKED BY DJS DATE 10/6/97			
		SAMF		ora	USADSDA OS					
repth ft.	TYPE and NO.	PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS	SOIL AND ROCK DESCRIPTIONS			
		18				NO ODOR DIAGONAL	(LACUSTRINE) DAMP/DRY, VERY STIFF, GRAY SILT, LITTLE CLAY,			
		17	ļ			FRACTURING	LITTLE MEDIUM GRAVEL, TRACE COARSE SAND			
29							_			
		8	ļ							
- 30	SS-15	15	24	18	0.0					
		19				W0 000D	(0170151) 1157 1500111 051/05 51/04 (17075 1500111			
		10				NO ODOR BLACK &	(OUTWASH) WET, MEDIUM DENSE, BLACK/WHITE MEDIUM T SAND, TRACE COARSE SAND, TRACE SILT.			
31		_				WHITE BANDING				
-		8				574151110				
32	SS-16	10	24	22	0.0		<u> </u>			
-		18								
•		22								
33		9								
-		12								
- 34	SS-17		24	18	0.0	NO ODOR	(TILL) MOIST/DAMP, VERY STIFF, GRAY SILT, LITTLE —			
-		17					CLAY, LITTLE COARSE SAND, LITTLE FINE TO MEDIUM GRAVEL.			
 7¢		11								
35		ļ					BOTTOM OF BORING AT 35 FEET.			
<u>-</u>			1			<u> </u>	WELL INSTALLED AT 33 FEET.			
							NOTES 1. CONCRETE DRILLED WITH SOLID STEM AUGER FINGER BIT			
_							2. AUTOMATIC HYDRAULIC HAMMER UTILIZED FOR			
							-			
-										
						1				
-							-			
							-			
					1					
_							_			
				Ì			1			
· ·										
							-			
81 Owe be	<u> </u> R·6" ≕14∩ ।	B. HAMMER FA	LUNG 30°	TO DRIVE A	1 2.0 IN. O.D.		ROD=LENGTH OF SOUND CORES >4 IN_/LENGTH CORED.%			
	SPLIT	SPOON SAMPL	_ER			i.	DEPTH=DEPTH BELOW GROUND SURFACE			
	N=PENETRATION LENGTH OF SAMPLER OR CORE BARREL DEPTH=DEPTH=DEPTH=BELOW GROUND SURFACE. REC=RECOVERY LENGTH OF SAMPLE (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)									

WATER TABLE (APPROX) SS=SPLIT SPOON SAMPLE S=SAMPLE TAKEN OFF AUGER CHANGE IN MATERIAL TYPE (DASHED WHERE INFERRED) HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP. CHANGE IN DEPOSIT TYPE (DASHED WHERE INFERRED)

Mabbett & Associates, Inc. Environmental Consultants & Engineers Alfred Circle Redford. Massochusetts 01730 • (617) 275-6050 • Fox: (617) 275-5651

Five Aifred Circi	e, pentoro, mossociiosetts	01730 • (017) 273-0030 • 70x:(017)	/ Z/J=3031 .
MONITORING W	ELL INSTALL.	ATION DIAGRAM	
RO. CLIENT LINDBERG HEAT TREATING	M&A-111		
OCATION _1975 NORTH RUBY ROAD, MELRO	DSE PARK IL.		.
ONTRACTOR D&G DRILLING			.
OCCED BY GCL			LOCATION <u>SEE SITE PLAN</u>
THECKED BY DJS			
		ELEVATION— TOP OF CASI	ING 634.39
:			R PIPE634.13
			· · · · · · · · · · · · · · · · · · ·
	SAIT AIRS		
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			
		TYPE OF SURFACE SEAL.	CONCRETE
		TYPE OF SURFACE CASING	
7		DEPTH-BOTTOM OF SURFACE CAS	SING 10 INCHES
		DEPTH-BOTTOM OF SURFACE SEA	AL/ 1 F00T
•	! 1	TOP OF BACKFILL	
		Riser Pipe: Type	SCHEDULE 40 PVC
:	- -	NOMINAL DIAMETER	2 INCHES
		DIAM, OF BOREHOLE	8 INCHES
		TYPE OF BACKFILL	N/A
:	- -	THE OF BROWNER	
	₊		
		DEPTH-TOP OF SEAL	1 F00T
		TYPE OF SEAL	BENTONITE CHIPS
		DEPTH-TOP OF FILTER P TYPE OF FILTER PACK	PACK 27 FEET SILICA SAND
		DEPTH-TOP OF SCREEN	28 FEET
·		SCREENED SECTION:	
		TYPE	SCHEDULE 40 PVC
		NOMINAL DIAMETER SLOT SIZE	2 INCHES 0.01 INCHES
		SLOT TYPE	MACHINE SLOTTED
		3001 111 L	
		חרמדון פסדלמני פר ייייי	33 FEET
		DEPTH-BOTTOM OF WELL	
	11/1/11/11	DEPTH—TOP OF SEAL, IF TYPE OF SEAL	ANY NONE NONE
NOT TO SCALE		DEPTH—BOTTOM OF BOR	
NOT TO SUBIL	- V/////////	. DEPTH—ROTTOM OF BORN	rmuir JJ ILLI

Five Alfred Circle,	Bedford, Massachusetts 01730 • ((617) 275-6050 • Fax: (617) 275	-5651
MONITORING WE	ELL INSTALLATION	N DIAGRAM	110 A A40
PROJE THENT LINDBERG HEAT TREATING	COMPANY	PROJ. NO. <u>87024.82</u>	M&A-112
CATION _1975 NORTH RUBY ROAD MELROS	E PARK IL.		
CONTRACTOR D&G DRILLING			
GCCED BY GCL			CATION SEE SITE PLAN, REFER TO
LHECKED BY DUS		1 •	BORING LOG M&A 113
	, .		
	<i></i>	ELEVATION- TOP OF CASING	634.47
	/ /	ELEVATION-TOP OF RISER PIPE	634,18
		>>	
KKKKKKKKKK		<i>\$</i>	
		TYPE OF SURFACE SEAL	CONCRETE
		I.D. OF SURFACE CASING	6 INCHES
		TYPE OF SURFACE CASING	W.T. FLUSH ROAD BOX
		DEPTH-BOTTOM OF SURFACE CASING	10 INCHES
		DEPTH-BOTTOM OF SURFACE SEAL/ TOP OF BACKFILL	1 F00T
		RISER PIPE:	
		TYPE	SCHEDULE 40 PVC
	- -	NOMINAL DIAMETER	2 INCHES
		DIAM. OF BOREHOLE	B INCHES
		TYPE OF BACKFILL	N/A
,	t		
		DEPTH-TOP OF SEAL	1 FOOT
	Y//) \//) .	TYPE OF SEAL DEPTH-TOP OF FILTER PACK	BENTONITE CHIPS
		TYPE OF FILTER PACK	SIUCA: SAND
		DEPTH-TOP OF SCREEN SCREENED SECTION:	5 FEET
•		TYPE	SCHEDULE 40 PVC
•		NOMINAL DIAMETER	2 INCHES
	= 1	SLOT SIZE	0.01 INCHES
		SLOT TYPE	MACHINE SLOTTED
] .			
		DEPTH-BOTTOM OF WELL	15 FEET
l	7777777	DEPTH-TOP OF SEAL, IF ANY	N/A
	1/////	TYPE OF SEAL	NONE
NOT TO SCALE		DEPTH-BOTTOM OF ROREHOLF	15 FEET

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PROJECT,	ROJECT/CLIENT LINDBERG HEAT TREATING COMPANY LOCATION MELROSE PARK, IL PROJ. NO. 87024.82 BORING NO.											
RING L	OCA1	non _S	EE SITE PLAN	4			DATE STA	RT/FINISH 8/11/97 / 8/12/97 WELL NO. M&A-	-113			
. F P'	FEDERAL ID. NO. <u>IDLU05071808</u> }											
OHADE	٦F	RIVER F	DREST, IL	SECTION 3	33.2b	<u>r, 40N R. 1</u>	<u>12E</u> DRILLING EQ	JIPMENT 4 1/4" ID HOLLOW STEM AUGER PG. 1 OF	<u>ا</u> ک			
OUND	ELEV	ATION (NO	(OV)		(CONTRACTOR [D&G DRILLING, INC.	G DRILLING, INC. FOREMAN DENNIS				
OUNDY	VATER	EL/DEP	TH		l	OCCED BY _	DJS/GGL	CHECKED BY GGL DATE 10/6/97				
			SAMP									
îEPTH FT.		TYPE and NO.	PE BLOWS PEN REC HEADSPACE REMARKS SOIL AND ROCK DESCRIPTIONS									
					-			CONCRETE				
9-1							F	· · · · · · · · · · · · · · · · · · ·				
1	777								_			
-			4					(FILL) DAMP, MEDIUM DENSE, GRAY/BROWN MEDIUM	+			
•]	10	i				SAND, LITTLE COARSE SAND.	1			
. 2		SS-1	10	24	16	0.0		(FILL) DAMP, MEDIUM DENSE, BLACK MEDIUM SAND,	\dashv			
•			8]		TRACE FINE GRAVEL	+			
			5						〓			
3			~				1		-			
-			2				1		7			
• 1			4						1			
4		SS-2		24	16	7.0		(LACUSTRINE) DAMP, FIRM, GRAY SILT AND CLAY, LITTLE FINE	\dashv			
<u>.</u> -		1	4					GRAVEL, TRACE MEDIUM SAND, TRACE COARSE SAND				
-			3				i	SARU]			
: 5												
:			3									
-			4						7			
6		SS-3		24	15	125		(LACUSTRINE) DAMP, FIRM, GRAY SILT AND CLAY, TRACE				
			3					MEDIUM SAND, TRACE COARSE SAND	-			
- -			4						.]			
7	4		, <u>, , , , , , , , , , , , , , , , , , </u>						-			
			3		1			·				
- -			4						4			
. 8		SS-4	ľ	24	2	20		(LACUSTRINE) SIMILAR TO SS-3	****			
			7]			
- -			8		1	-			_			
9									ㅓ			
			3						1			
_			6				ŀ		-			
10		SS-5		24	24	5.0		(LACUSTRINE) SIMILAR TO SS-3	. —			
			9									
_			12			1			4			
11	K	}	,					And the second s				
		}	3				NO ODOR		_			
-			5				MINOR	() A QUETOWEL - AND				
12		SS-6	, .	24	24	5.0	DIAGONAL	(LACUSTRINE) DAMP, STIFF, TAN/LIGHT BROWN SILT AND CLA	Y. 🗍			
		1.	7				FRACTURING	TRACE COARSE SAND, TRACE FINE GRAVEL.	_			
		1	7		1				4			
13]									
•		1	2				NO ODOR	(LACUSTRINE) SIMILAR TO SS-6	. 4			
1.4		SS-7	2	24	20	0.0	NO FRACTURING	•	4			
୧ ୧ ୫ ୦ ଜ	ER 6	=140 LB	HAMMER FALI	LING 30" TO	DRIVE A 2	2.0 IN. O.D.		RQD=LENGTH OF SOUND CORES >4 IN./LENGTH CORED,%	$\overline{}$			
7		SPUT S	ipoon sample	R				DEPTH=DEPTH BELOW GROUND SURFACE				
			on Length of Length of S/		UK CORE BA	AKKEL		(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)	•			
		RECUVERT PLIT SPOOM		-wit LE				✓ WATER TABLE (APPROX)				
	S=SA	MPLE TAKE	N OFF AUGER						≀FD1			
: 	HEAD!	SPACE=RES	SULT. OF FIELD JIPPED WITH 1	HEADSPAC	e screening	C WITH PID,		CHANGE IN DEPOSIT TYPE (DASHED WHERE INFERRE	- 1			
1		EQI	DIELEO MILLI	U.Z. CY LAM	4 -				· .			

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PROJECT/CLI	ENT <u>UND</u>	BERG HEAT	TREATING C	OMPANY		LOCATION .	MELROSE PARK, IL	PROJ. NO. 87024.82	BORING NO
RING LOCATION SEE SITE PLAN DATE START/FINISH 8/11/97 / 8/12/97									WELL NO. M&A-113
TE FILT NO. 0311860001 COUNTY COOK FEDERAL ID. NO. IDL005071808								O HOLLOW EXTLA MACO	PG. 2 OF 3
DUADK: LE	LE RIVER FOREST, IL SECTION 33.26 T. 40N R. 12E DRILLING EQUIPMENT 4 1/4" ID HOLLOW STEM AUGER PG. DELEVATION (NGVD) CONTRACTOR D&G DRILLING, INC. FOREMAN DENNIS PG.								PG. 2. OF 3
					LOGGED BY _				
LOUITURATE	N CC/DCF	SAME			COOSED UT _	340, 302	_ GILGALD ST _	UAIL T	<u> </u>
PEPTH FT.	TYPE and NO.	Blows Per 6 in.	PEN In.	REC In.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIPT	ions
		3						75 - 1 The time of the control of th	
		4		}					
15	4					-			
		1							_
	3	2				NO ODOR WET AROUND	(Lauren Lauren		-
16	SS-8	3	24	18	4.0	GRAVEL, NO		MOIST, FIRM, GRAY SILT AND C COARSE SAND, TRACE FINE GR	
{	7					FRACTURING			-
17		3	,						
		1			<u> </u>				_
· .		1				NO ODOR			4
18	SS-9	,	24	18	0.0	WET AROUND GRAVEL WET		MOIST, FIRM, GRAY CLAY, SOMI COARSE SAND, TRACE FINE GR	
		3				DIAGONAL		COMINGE SHIPE, INVOLUTING ON	NACC.
19		5				FRACTURING			
15	3	2		*		,			
	3	4							
20	SS-10		24	20	0.0	NO ODOR		DAMP, STIFF, GRAY SILT, LITTL	
-	3	10					· · · · · · · · · · · · · · · · · · ·	COARSE SAND, TRACE FINE GR	AVEL
		24							_
21		11				NO ODOR			
-						MINOR DIAGONAL			_
- 22	SS-11	20	24	20	0.0	FRACTURING		DRY, VERY DENSE, GRAY VERY	
		24	ļ			SHALY CLEAVAGE &		SILT, LITTLE FINE GRAVEL, TRA	.CE COARSE SAND. —
-		25				HORIZONTAL			<u>-</u>
23	Í	13				FRACTURING FOR ENTIRE	(LACHETDINE)	DOW MERLY COLV COLV	HTDC LEGAL CAR
	3					FINE SAND	(LACUSTRINE)	DRY, VERY STIFF, GRAY SILT, SAND, LITTLE FINE GRAVEL, TF	
- · 24	SS-12	16	24	20	0.0	STRATUM NO ODOR		SAND	_
	3	28] .				(LACUSTRINE)	MOIST/DAMP, DENSE, GRAY FIL	NE SAND, TRACE
-		22						SILT.	-
— 25 >		10			į		(LACLISTRINE)	DAMP/DRY, MEDIUM DENSE, G	DAY VEDY CINE -
		12				ļ	(LAGOS ININE)	SAND AND SILT, TRACE COARS	
- 26	SS-13	16	24	22	0.0	NO ODOR	(LACUSTRINE)	DAND /DOV ACOVEDED COAN	CUT COME WERY
26	33-13	16	47	1	0.0		(choosinate)	DAMP/DRY, VERY STIFF, GRAY FINE SAND, LITTLE FINE GRAY	
		10		•				SAND, TRACE CLAY.	- -
27	4	18							_
<u> </u>	3	5				CTDOMO POLICIA	(LACUSTRINE)	SIMILAR TO SS-13	- -
28	SS-14	13	24	- 20	280	STRONG SOLVENT ODOR	(Choop mare)		-
		, HAMMER FAI		O DRIVE A	2.0 IN. O.D.	· · · · · · · · · · · · · · · · · · ·	RQD=LENGTI	i of sound cores >4 in./Leng	TH CORED,%

_N=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUCER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP.

DEPTH=DEPTH BELOW GROUND SURFACE

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Mabbett & Associates, Inc.

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ROJECT/CL	ROJECT/CUENT LINDBERG HEAT TREATING COMPANY LOCATION MELROSE PARK, IL PROJ. NO. 87024.82 BORING NO.									
RING LOCA	ATION 📑	SEE SITE PLA	N			DATE START/FINISH 8/11/97 / 8/12/97 WELL NO MAYA-113				
aiE P NO	03118600	001 C	CUNTY C	00K	FEDE	EDERAL ID. NO. 101:005071808				
DUADRANGLE	RIVER F	OREST, IL	SECTION .	33.2b	T. 40N R.	DRILLING EQUIPMENT 4 1/4" ID HOLLOW STEM AUGER PG. 3 OF 3 DEG DRILLING, INC. FOREMAN DENNIS				
OUND ELE	VALION (NO	νυ) Τυ			FORCED BY	חוב /ככו	- FOREMAN -	GGLDATE10/6/97	1	
OUNDWATE	בת בני/טבר	SAMP			LUGUED D1 _	0037 000	_ Checken bi	UAIE		
EPTH FT.	TYPE and NO.	BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIP	TIONS	
29		18 17 3 11				3° MOIST FINE SAND VEIN NO FREE LIQUID AT 25.5 FEET	(LACUSTRINE)	DRY, VERY STIFF, GRAY SILT, SAND, TRACE COARSE SAND, GRAVEL		
30	SS-15	13	24	22	320	STRONG SOLVENT ODOR NO			-	
31		15				DNAPL	(OUTWASH)	WET, MEDIUM DENSE, GRAY FIR SILI, TRACE COARSE SAND.		
	3	4					(LACUSTRINE)	DAMP, FIRM, GRAY SIET, LITTLI TRACE CLAY, TRACE COARSE		
32	SS-16	5 13 16	24	22	320	STRONG SOLVENT ODOR DNAPL OBSERVED IN	(OUTWASH)	WET, MEDIUM DENSE, GRAY FII SILT, TRACE COARSE SAND.	NE SAND, TRACE	
33	SS-17	5 7	24	20	48	SOIL 31.5 TO 33 FEET	(OUTWASH)	WET, LOOSE, GRAY FINE SAND LITTLE COARSE SAND.	, UTTLE SILT,	
-	22-17	14 24	29	20	40	ODOR	(TILL)	MOIST/DAMP, VERY STIFF, GR. CLAY, LITTLE FINE TO MEDIUM COARSE SAND.		
35	2							BOTTOM OF BORING AT 35 FE WELL INSTALLED AT 33 FEET.		
							NOTES 1.	. Concrete drilled with solid Finger bit.	STEM AUGER	
-							2	. AUTOMATIC HYDRAULIC HAMME SPLIT SPOON ADVANCEMENT.	R UTILIZED FOR	
-									· -	
									· · · · · · · · · · · · · · · · · · ·	
-									- -	
-									- -	
-									- - -	
OWS PFR	6" =140 LB SPLIT S	. Hammer fal Spoon Sampli	LING 30" T	O DRIVE A	2.0 IN. O.D.		RQD=LENG	TH OF SOUND CORES >4 IN./LENG	GTH CORED,%	

FEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC=RECOVERY LENGTH OF SAMPLE SS=SPLIT SPOON SAMPLE S=SAMPLE TAKEN OFF AUCER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID.

EQUIPPED WITH 10.2 eV LAMP.

DEPTH=DEPTH BELOW GROUND SURFACE (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fax: (617) 275-5651

		ATION DIAGRAM	M&A-113
JENT LINDBERG HEAT TREATING	•	PROJ. NO. <u>87024.82</u>	- WICK THU
ATION 1975 NORTH RUBY ROAD, MELRO			
NTRACTOR _D&G_DRILLING			
GGED BY GGL	DATE _8/12	2/97	LOCATION SEE SITE PLAN
ECKED BY _DJS	DATE _10/E	/97	
<u> </u>			
•	•		
	,	ELEVATION— TOP OF C	ASING <u>634.47</u>
	/ -	ELEVATION—TOP OF RIS	SER PIPE634,28
************	SAIT TIPS		
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX			,
· · · · · · · · · · · · · · · · · · /	YOO DO	TYPE OF SURFACE SE	AL CONCRETE
		I.D. OF SURFACE CASI	
-		TYPE OF SURFACE CA	SING W.T. FLUSH ROAD BOX
		DEPTH-BOTTOM OF SURFACE	CASING 10 INCHES
•		/ DEPTH-BOTTOM OF SURFACE	SFAL / 1 FOOT
		TOP OF BACKFILL	ULAL/
		RISER PIPE;	
		TYPE	SCHEDULE 40 PVC
,	- - -	NOMINAL DIAMETER	2 INCHES
	- -	DIAM. OF BOREHOLE	8 INCHES
		TYPE OF BACKFILL	N/A
	Ī — —		
		DEPTH-TOP OF SEAL	1 F00T
		TYPE OF SEAL	BENTONITE CHIPS
	7/4 //4-	DEPTH-TOP OF FILTE	au .a. a.ua
		TYPE OF FILTER PACK DEPTH-TOP OF SCREI	
		SCREENED SECTION:	
	=	TYPE	SCHEDULE 40 PVC
		NOMINAL DIAMETER	2 INCHES
		SLOT SIZE	0.01 INCHES
·		SLOT TYPE	MACHINE SLOTTED
		DEPTH-BOTTOM OF V	VELL 33 FEET
		DEPTH-TOP OF SEAL	
	11/1///	TYPE OF SEAL	BENTONITE CHIPS
WOT TO DO !! C			PARTIES TE ETET
NOT TO SCALE	V////////	DEPTH-BOTTOM OF 8	BOREHOLE 35 FEET

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7770 747100 01101 00		700 (017) 270 0000 1011(017)			
MONITORING WEL	L INSTALLA	TION DIAGRAM			
ROJE LIENT LINDBERG HEAT TREATING COM	PANY	PROJ. NO. <u>87024.82</u>	M&A-114		
CATION 1975 NORTH RUBY ROAD, MELROSE P	ARK IL.				
ONTRACTOR D&G DRILLING					
IGGED BY DJS		•	LOCATION <u>SEE SITE PLAN. REFER TO</u>		
HECKED BY GG			BORING LOG M&A-115		
TILUNEU UI 1881	DAIL 10/0/37				
		ELEVATION— TOP OF CASIN	C 634.4Q		
· •					
•		CLE VALION - TOP OF KISER	PIPE634.24		
**************************************	Andrew Stranger	77777	•		
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		Type or dineror ear	CONCOUNT		
		TYPE OF SURFACE SEAL	CONCRETE		
		I.D. OF SURFACE CASING			
		TYPE OF SURFACE CASING	W.T. FLUSH ROAD BOX		
		DEPTH-BOTTOM OF SURFACE CASH	NG 10 INCHES		
		DEPTH-BOTTOM OF SURFACE SEAL	/ 8 INCHES		
	_ _	TOP OF BACKFILL	/ Uniones		
		RISER PIPE:			
		TYPE	SCHEDULE 40 PVC		
· • • • • • • • • • • • • • • • • • • •		NOMINAL DIAMETER	2 INCHES		
}		DIAM. OF BOREHOLE	8 INCHES		
	_	TYPE OF BACKFILL	N/A		
·					
†					
F-	- 	DEPTH-TOP OF SEAL	8 INCHES		
<i>Y</i>		TYPE OF SEAL	BENTONITE CHIPS		
		DEPTH—TOP OF FILTER PA TYPE OF FILTER PACK	CK 4 FEET SIUCA SAND		
· 		DEPTH-TOP OF SCREEN	5 FEET		
•		SCREENED SECTION:			
		TYPE	SCHEDULE 40 PVC		
		NOMINAL DIAMETER	2 INCHES		
'	= '	SLOT SIZE	0.01 INCHES		
		SLOT TYPE	MACHINE SLOTTED		
·					
		DEPTH-BOTTOM OF WELL	15 FEET		
1		DEPTH-TOP OF SEAL, IF A			
		TYPE OF SEAL	BENTONITE CHIPS		
NOT TO SCALE		מבמדש מתווחו מב מתפכו			
INCOLUMN TO THE PARTY OF THE PA		+15 D (H H/) / (H F C E E E E E E E E E E E E E E E E E E	ALD S I LEFT LA INCOME		

Mabbett & Associates,

- Environmental Consultants & Engineers

Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fax:(617) 275-5651

PROJECT/CL	JENT LINO	BERG HEAT	REATING C	OMPANY		LOCATION	MELROSE PARK, 1	PROJ. NO. 87024.82	BORING NO		
RING LOC	ATION S	SEE SITE PLA	N			DATE_STAI	RT/FINISH8	/7/97 / 8/7/97	WELL NO. M&A-115		
SITE F	o 0 <i>5</i> 118600	ع 100	OHNTY CO	00K	FFDF1	RALID NO. IDLO	05071808				
OUADRANGL	e <u>River f</u>	OREST, IL	SECTION .	33.2b	T. 40N R.	<u>12E</u> DRILLING EQI	JIPMENT 4 1/4	ID HOLLOW STEM AUGER	PG. 1 OF 3		
						&G DRILLING, INC. FOREMAN DENNIS DJS CHECKED BY GGL DATE 10/6/97					
GROUNDWAT	ER EL/DEP	THSAMP			LOGGED BY _	003	CHECKED BY .	OOF NAIE 1070/31			
EPTH FT.	TYPE and NO.	BLOWS PER 6 IN.	PEN In.	REC In.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIPT	IONS		
								CONCRETE			
- 1 -		_									
		7							-		
_ 2	SS-1	7	24	16	0.5		(FILL)	DRY, MEDIUM DENSE, GRAY/BRO	WN MEDIUM SAND		
	33 '	6	- '					AND SILT, SOME COARSE SAND,			
		5					•	GRAVEL.	_		
3						·		•	_		
		3									
		3					(Eu.)	CIMPAGE TO CC 1			
4	SS-2	4	24	12	3.5		(FILL)	SIMILAR TO SS-1			
- 1		7									
	3	4									
, 5 5		3		1					_		
- }		3	•	ļ		AUGER	(58.1)	CILIE AD TO CC 1			
6	SS-3	,	24	8	0.5	REFUSAL	(FILL)	SIMILAR TO SS-1			
_		- '				DRILLED THROUGH 7		CONCRETE			
-		-				INCHES OF	(E81)	MOIST, FIRM, GRAY SILT, SOME	FINE TO COARSE		
7 - [<u> </u>	-				CONCRETE		SAND, TRACE FINE GRAVEL.	FINE TO COARSE		
-	3	3				WITH FINGER BIT.					
- 8	SS-4	6	24	20	290				-		
	33-4	8	2 1	1	1 230				=		
- [7										
9		10							_		
		3			240	PETROLEUM ODOR			-		
-		5							-		
- 10	SS-5	7	24	24		1	(LACUSTRINE)	DAMP, STIFF GRAY SILT, LITTL MEDIUM SAND.	E CLAY, TRACE —		
_			[280			MEDICIN SPAID.	-		
- ,		8				_[
- 11	7		-								
}						BLOW COUNTS					
- 12	SS-6	_	24	0	-	NOT		NO RECOVERY			
	3	-			•	RECORDED			. -		
_		_							_		
13						}					
		2							-		
14	SS-7	. 2	24	24	105		(LACUSTRINE)	SIMILAR TO SS-5			
-OWS ack	6" =140 LB	B. HAMMER FAI	LING 30° TO	o drive a	2.0 IN. O.D.		RQD=LENG	TH OF SOUND CORES >4 IN./LENG	TH CORED.%		

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PIO, EQUIPPED WITH 10.2 eV LAMP.

DEPTH=DEPTH BELOW GROUND SURFACE (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fax: (617) 275-5651

PROJECT	CLIENT LINE	DBERG HEAT	TREATING (OMPANY		LOCATION					BORING	NO	
ORING L	OCATION _	SEE SITE PLA	N			DATE_STA	.RT/FINISH8	8/7/97	_/8/7	7/97	WELL N	0. <u>M&/</u>	4-115
JIE F	NO. 0311860	1001 (COUNTY C	77.0k	FEDEI	RAL ID. NOIDLO	05071808	יות אינויטאי -	N CTELL AL	irep	PG. 2		7
QUADIC 1	SE KIVER I	CVD)	SECTION	33.20	CONTRACTOR (12E DRILLING EQ D&G DRILLING, INC.	UIPMENT 4 1/4	DENNIS	I SIEM AC	JOER	1 0. 2	_ 01)
					LOGGED BY _		CHECKED BY		DATE	10/6/97	•		
10000		SAME									J		
DEPTH FT.	TYPE and NO.	BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS		SOIL	. AND ROC	CK DESCRIPT	NONS		
		4				•						-	
		5											-
15													
		3											_
-		5	_				(a a						4
16	SS-8	δ	24	24	2.0		(LACUSTRINE)	SIMILAR 1	10 SS-5				
													-
: - 17		7		,									
		1											=
17 - - - 18		2		1.									_
18	SS-9	4	24	24	11.0		(LACUSTRINE)	SIMILAR 1	TO SS-5				
<u> </u>													
19		6				ļ							
, , ,		6		1									-
- 20		12		-									=
- 20	SS-10	18	24	24	1.0		(LACUSTRINE)	SIMILAR	TO SS-5				
_						SHALY CLEAVAGE &							
- 21		34			350	HORIZONTAL	(LACUSTRINE)	DRY, DEN	√SE, GRAY	VERY FINE	SAND.		_
- 21		12				FRACTURING	(LACHETOINE)	DAMP II	100 0041	V CU T COU	C MEGAN	CONO	-
-		28				;	(LACUSTRINE)	LITTLE CL		Y SILT, SOM	t MEDIUN	SANU,	, –
- 22	SS-11	1	24	24	0.5								
F		33					(LACUSTRINE)			GRAY VERY O MEDIUM		NA DN	.0
- 23 ·		40			,			JIC1, LIT	122 (1842)	O MEDIUM	OIVATLL.		-
. 25		3				1	(LACUSTRINE)	DAMP S	TIFE GRAY	Y SILT, SOM	F VFRY F	INF SA	ND _
L [']		11		}			(criodoniarie)	D1 1111 ; O	, O	. 5121, 50m	C 721(1)	ine on	····
24	SS-12		24	24	320								
		24					•				•		_
_ 25		20				1467							
─ 25		16				WET							_
∟		21											_
26	SS-13	<u> </u>	24	24	310		(LACUSTRINE)			Y SILT, SOM		FINE SA	ND,
		27 ·		1.				IRACE F	INE 10 ME	EDIUM GRAV	t.L.		_
27		30											
j— 27		8		•]	0.5-INCH VEIN DRY MEDIUM	(Lanuarrane)	DDV 115	Duus 05	OF 00.44		04110	
	SS-14	13	24	24	2.5	SAND AT 27	(LACUSTRINE)	DRY, MEI SOME SIL		SE, GRAY VI	LKT HNE	SAND,	-
28	N	1	<u> </u>			FEET					.		
	IWS PER 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. SPLIT SPOON SAMPLER NUMBER FOR CORE BARRES DEPTH=DEPTH BELOW GROUND SURFACE												
	_N=PENETRATI			OR CORE E	JAKKŁĹ					OWS LOCATIO	N OF SAI	APLE)	

REC=RECOVERY LENGTH OF SAMPLE

SS=SPUT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PIO, EQUIPPED WITH 10.2 eV LAMP.

WATER TABLE (APPROX)

Five Alfred Circle. Bedford. Massachusetts 01730 • (617) 275-6050 • Fox:(617) 275-5651

POJECT/C	LIENT LINE	BERG HEAT T	REATING C	OMPANY		LOCATION	MELROSE PAR		ROJ. NO. 8/024.82	BORING NO.
ING LO		SEE SITE PLAI				DATE ST	ART/FINISH	8/7/97	_/8/7/97	- WELL NO. M&A-115
ite fi	<u>) 0311860</u>	001 C	OUNTY C	33.2h	FEDER	RAL ID. NO. IDL	005071808		V STEM ANCER	PG. 3 OF 3
LIADRANG	E KIVEK F	UKESI, IE	SECTION .	33.20	CONTRACTOR C	12E DRILLING ED D&G DRILLING, INC	UUIPMEN I <u>3 1</u> 2 - FORFMAN	DENNIS	T STEM NOVER	1 0.0 0
DUNU EL	TER EL ADER	TH			LOGGED BY _	DJS	CHECKED	BYGGL	DATE _10/6/97	
3,00110117	TEN CE/UCI	SAMP					<u> </u>			L
PTH FT.	TYPE and NO.	BLOWS PER 6 IN.	PEN In.	REC IN.	HEADSPACE PPM	REMARKS		SOIL	AND ROCK DESCRIP	TIONS
	7	14								
	3	15								
- 29							(OUTUA CIA)	200 /200	DEVES DI LOV ALLI	TT 001005 CIVID
		18					(OUTWASH)	DRY/DAMP. TRACE SIL	, DENSE, BLACK/WHI' T.	IE COARSE SAND,
		21				. 4				
- 30	SS-15	23	24	24	0.0					_
:		· [SHALY				
- 31		26				CLEAVAGE &				-
٠, ١		17				HORIZONTAL FRACTURING				
		28		ļ						
. 32	SS-16	1	24	24	0.0		(LACUSTRIN	E) DRY, VERY SAND	DENSE, GRAY SILT	AND VERY FINE -
1		36						SANO		
		37				ļ				
33									OF BORING AT 33 F	
,						-	1	WELL INS	STALLED AT 33 FEET.	
					1		NOTES	1. CONCRETE FINGER BI	DRILLED WITH SOUD T.	STEM AUGER
									C HYDRAULIC HAMME OON ADVANCEMENT.	R UTILIZED FOR
-										
								•		•
•										
-										-
5.										
-			1							
							1			
_									•	
_					1					
- -					1				•	
*										,
-										
			1							
÷										
	<u> </u>		1			<u> </u>	<u> </u>			
OM2 oct	₹ 6" =140 LI	B. HAMMER FA	LLING 30"	to drive a	2.0 IN. 0.0.		RQD=i	ENGTH OF SOL	IND CORES >4 IN./LEI	NGTH CORED,%

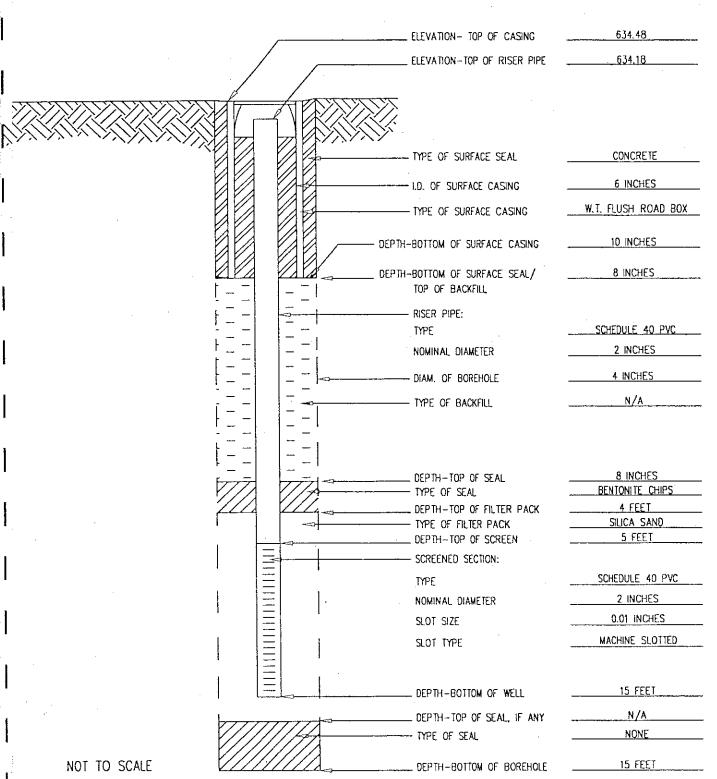
PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC=RECOVERY LENGTH OF SAMPLE SS=SPLIT SPOON SAMPLE S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP.

DEPTH=DEPTH BELOW GROUND SURFACE (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Five Alfred Circle,	Bedford, Massachusetts U1/30 • ((617) 275-6050 * Fax:(617) 275	-5651
MONITORING WE	LL INSTALLATION	N DIAGRAM	
PROJE JUENT LINDBERG HEAT TREATING C	OMPANY	PROJ. NO. 87024.82	M&A-115
CATION 1975 NORTH RUBY ROAD, MELROSE	PARK IL.	·	
CONTRACTOR D&G DRILLING	DRILLER <u>DENNIS</u>	,	
)GGED BY DJ\$	DATE <u>8/7/97</u>	L	OCATION SEE SITE PLAN
CHECKED BY GG	DATE 10/6/97		
·	<i></i>	ELEVATION- TOP OF CASING	634.48
I		ELEVATION-TOP OF RISER PIPE	634,29
VXIXIXIXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		於	
		TYPE OF SURFACE SEAL	CONCRETE
·		I.D. OF SURFACE CASING	6 INCHES
•		TYPE OF SURFACE CASING	W.T. FLUSH ROAD BOX
		EPTH-BOTTOM OF SURFACE CASING	10 INCHES
		DEPTH-BOTTOM OF SURFACE SEAL/	8_INCHES
	t	TOP OF BACKFILL	
•	├ <u></u> -	RISER PIPE:	CONTONUE AN ONE
•	F	TYPE NOMINAL DIAMETER	SCHEDULE 40 PVC 2 INCHES
1		— DIAM, OF BOREHOLE	8_INCHES
1		TYPE OF BACKFILL	N/A
		THE OF DAGAFILE	an Mark M. I. O.
1			
1		DEPTH-TOP OF SEAL	8 INCHES
1		TYPE OF SEAL	BENTONITE CHIPS
		DEPTH-TOP OF FILTER PACK TYPE OF FILTER PACK	27 FEET SILIÇA SAND
		DEPTH-TOP OF SCREEN	28 FEET
		SCREENED SECTION:	
-		TYPE	SCHEDULE 40 PVC
·		NOMINAL DIAMETER	2 INCHES 0.01 INCHES
I		SLOT SIZE SLOT TYPE	MACHINE SLOTTED
ı		SECT LIFE	missing occurre
		DEDECTOR OF USE	33 FEET
		DEPTH-BOTTOM OF WELL	
	7/////	DEPTH-TOP OF SEAL, IF ANY TYPE OF SEAL	NONE NONE
NOT TO SCALE		DEBTH DATTON OF DODENOR	33 FFF T

Mabbett & Associates, Inc. Environmental Consultants & Engineers Five Alfred Circle, Bedford, Mossachusetts 01730 • (617) 275-6050 • Fax: (617) 275-5651 MONITORING M&A-116 CLIENT LINDBERG HEAT TREATING COMPANY PROJ. NO. 87024.82 DOCATION 1975 NORTH RUBY ROAD, MELROSE PARK IL DRILLER DENNIS CONTRACTOR D&G DRILLING LOCATION SEE SITE PLAN, REFER TO ______ DATE __8/6/97_ DCCED BY DJS BORING LOG M&A-117 _____ DATE __10/6/97_ LHECKED BY _GGL_ 634.48 . ELEVATION- TOP OF CASING ELEVATION-TOP OF RISER PIPE 634.18 - TYPE OF SURFACE SEAL CONCRETE 6 INCHES - I.D. OF SURFACE CASING - TYPE OF SURFACE CASING



Mabbett & Associates,

Environmental Consultants & Engineers

_		0 10 4		04.770	(0.3)	434		
1 IVC	Alfred Lircle,	Beatore,	Messochusetts	01/30 =	101/1	2/3-6030	 Fax: (617) 275-5651 	

PROJECT/	CLIENT LING	DBERG HEAT	TREATING O	OMPANY		LOCATION	MELROSE PARK, IL PROJ. NO. 87024.82 BORING NO.
ORING L	OCATION _	SEE SITE PLA	N			ART/FINISH 8/6/97 / 8/6/97 WELL NO. M&A-117	
SITE	NO. 0311860	001 0	COUNTY C	OOK	FEDE	RAL 10. NO. <u>1DL</u>	005071808
OUADRAN	GLE RIVER F	OREST, IL	SECTION	33.2b	T. 40N R.	DUIPMENT 4 1/4" ID HOLLOW STEM AUGER PG. 1 OF 3	
							FOREMAN DENNIS
JROUNDW	ATER EL./DEP				LOGGED BY	012	CHECKED BY GCL DATE 10/6/97
DEPTH FT.	TYPE and NO.	SAMF BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPAGE PPM	REMARKS	SOIL AND ROCK DESCRIPTIONS
							CONCRETE -
							<u>-</u>
- 1		5					(FILL) DRY, MEDIUM DENSE, BROWN FINE SAND, TRACE
2	SS-1	5	24	18	1.0		
- 2		6	4.1	, ,			(LACUSTRINE) DAMP, STIFF, BROWN SILT, TRACE CLAY
		7	•				
- 3							-
		8					
		11			7.0		
- † 4 ├	SS-2	7	24	18	3.0		(LACUSTRINE) DAMP, STIFF, BROWN SILT, LITTLE MEDIUM GRAVEL, TRACE CLAY.
L							טומיבב, וונאטב טנאו.
<u>- 5</u>		5					
F		3					
Γ.		3	:				
- 6	SS-3	E	24	12	5.5		(LACUSTRINE) DAMP, STIFF, GRAY/BROWN SILT, LITTLE FINE —
F		5					GRAVEL, LITTLE CLAY, TRACE MEDIUM SAND. —
١		7					-
. - /		4					,
-				ļ			
- 8	SS-4	5	24	6	2.5		(LACUSTRINE) MOIST, SIMILAR TO SS-3
L.		7					
		7					· -
- 9		3					
⊢ '							-
- 10	SS-5	6	24	3	0.5		(OUTWASH) MOIST, VERY STIFF, GRAY SILT, SOME MEDIUM TO —
. 10	33.3	9	21		V.5		COARSE SAND, SOME CLAY.
		9					
- 11	R						
		10		İ			_
- 12	8	13					(LACUSTRINE) MOIST, VERY STIFF, GRAY SILT AND CLAY, TRACE FINE GRAYEL, TRACE COARSE SAND.
L- 12	SS-6	14	24	24	0.0		- NOOL THE GATTER, MADE COMISE STATE.
1						1	-
13		15					- -
		2		Ì			~
- 14	SS-7	4	24	.05	0.5		(LACUSTRINE) MOIST, STIFF, GRAY SILT AND FINE SAND.
LOWS	역 6" =140 LB.	. HAMMER FAL	LING 30" TO	DRIVE A	2.0 IN. O.D.		ROD=LENGTH OF SOUND CORES >4 IN./LENGTH CORED,%

SPLIT SPOON SAMPLER

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP.

DEPTH=DEPTH BELOW GROUND SURFACE (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fax: (617) 275-5651

PROJECT/CLIE				OMPANY		LOCATION		IL PROJ. NO. 87024.82	BORING NO	_		
ORING LOCA		SEE SITE PLA				DATE START/FINISH8/6/97 _/ 8/6/97WIFEDERAL ID. NOIDL005071808						
SITE NO.	03118600	001 C	OUNTY C	00K	FEDE	RAL ID. NOIDLO	05071808		PG. 2 OF 3			
OUADKANGLE	KIVER F	OKESI, IL	SECTION .	JJ. 20	T, 40N R.	<u>12E </u>	UIPMENT 4 1/4	ID HOLLOW STEM AUGER	rb.Z Ur J	,		
					LOGGED BY			GGL DATE 10/6/97				
SAUGNOMATE	N EL/DEF	SAME		· · · · · ·	LOOOLD D1 -		CITECALO BI	OAIC TOTOTO				
DEPTH FT.	TYPE and NO.	BLOWS PER 6 IN.	PEN In.	REC IN.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIPT	IONS	:		
		5										
		7			1					4		
15												
- "		10								4		
		12								=		
- 16	·SS-8	12	24	24	0.0		(LACUSTRINE)	MOIST, VERY STIFF, GRAY SILT TRACE COARSE SAND.	AND CLAY,	\dashv		
		14										
17		,,				Į į				_		
		3								-		
		4	2.				4			4		
∮ 18 ⊢	SS-9	4	24	16	0.0		(LACUSTRINE)	SIMILAR TO SS-8				
- .		٤.	·							-		
19		5										
E'		5		!								
		6				0.5" DRY WHITE COARSE				.]		
_ 20	SS-10	7	24	24	0.0	SAND VEIN	(LACUSTRINE)	SIMILAR TO SS-8		=		
		-								-		
21		12			İ							
		6								4		
t 🛭		7			-	THE GRAY						
- 22	SS-11		24	21	0.0	FINE SANDS EXHIBIT SHALY	(LACUSTRINE)	DRY, DENSE, GRAY FINE SAND,	TRACE MEDIUM	_		
F D		17				CLEAVAGE &		SAND, TRACE FINE GRAVEL				
⊢		15			1	HORIZONTAL FRACTURING				_		
23	}	9										
	1	18										
24	SS-12		24	12	0.0	+	(LACUSTRINE)	DRY, HARD, GRAY SILT, TRACE	FINE SAND,	_		
Ι,		13						TRACE FINE GRAVEL.				
- 8		24		5						-		
- 25		9				1				_		
						3" VEIN OF				**		
26	SS-13	14	24	20	0.0	WET GRAY	(LACUSTRINE)	MOIST, HARD, GRAY SILT, TRA	CE FINE SAND.	_		
		. 15				FINE SAND AT 25.5 FEET		TRACE CLAY.		_		
F _ [15						•		_		
⊢ 27	4	8	1			3" VEIN OF WET GRAY						
, (SS-14	16	24	22	0.0	SILT AT 27.5	(LACUSTRINE)	MOIST, VERY STIFF, GRAY SILT SAND, TRACE FINE TO MEDIUM		-		
28	<u> </u>	<u>}</u>	<u> </u>			FEET	· .					
OWS ™R 6		Hammer fal 2000 Sample		DRIVE A	2.0 IN. O.D.		ROD=LENGT	TH OF SOUND CORES >4 IN./LENG	TH CORED,%			

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP.

DEPTH=DEPTH BELOW GROUND SURFACE

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

CHANGE IN MATERIAL TYPE (DASHED WHERE INFERRED)

CHANGE IN DEPOSIT TYPE (DASHED WHERE INFERRED)

Mabbett & Associates, lnc. Environmental Consultants & Engineers Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fox:(617) 275-5651 ROJECT/CLIENT LINDBERG HEAT TREATING COMPANY LOCATION MELROSE PARK, IL _ PROJ. NO. <u>87024.8</u>2 8/6/97 8/6/97 DATE START/FINISH FEDERAL ID. NO. IDL005071808 COUNTY COOK R 12E - DRILLING FOLIPHENT 4 1/4" ID HOLLOW STEM AUGER SECTION 33.2b T 40N

INDWAT	ER EL/DEP				CONTRACTOR LOGGED BY	DJS	CHECKED BYGGL DATE 10/6/97
TH	TYPE and NO.	SAMP BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS	SOIL AND ROCK DESCRIPTIONS
	7	14					
29		12					·
.3		12				1 141011 5315	
0	SS-15	13	24	24	0.5	1-INCH FINE SAND VEIN AT	(LACUSTRINE) SIMILAR TO SS-14
		12	2.			30.5 FEET	
sı .		21 .			1		
"		34				1-INCH GRAY MEDIUM SAND	(LACUSTRINE) DAMP, GRAY SILT, TRACE CLAY.
2	SS-16	45	24	24	0.0	VEIN AT 31.1	(LACUSTRINE) DRY, DENSE, GRAY VERY FINE SAND.
		46		_		0.5-INCH	
3		34				BLACK/WHITE MEDIUM TO	
		15				COARSE SAND VEIN AT 31.5	
4	SS-17	20	24	24	0.0	FEET.	(LACUSTRINE) DRY, DENSE, GRAY VERY FINE SAND.
		21				THE GRAY FINE SANDS	
5		18				FROM 31.5 TO 35 FEET	
		9				EXHIBIT SHALY CLEAVAGED	
36	SS-18	10	24	24	0.0	HORIZONTAL FRACTURING	(LACUSTRINE) DRY, VERY STIFF, GRAY SILT, TRACE COARSE
		12					SAND, TRACE FINE SAND.
37	4	16					
							BOTTOM OF BORING AT 33 FEET. WELL INSTALLED AT 30 FEET.
							NOTES 1. CONCRETE DRILLED WITH SOLID STEM AUGER FINGER BIT.
							1. AUTOMATIC HYDRAULIC HAMMER UTILIZED FOR SPLIT SPOON ADVANCEMENT.
						1	

R 5" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. SPLIT SPOON SAMPLER PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

SEE SITE PLAN

DRING-LOCATION

SITE NO. 0311860001

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP.

ROD=LENGTH OF SOUND CORES >4 IN./LENGTH CORED,% DEPTH=DEPTH BELOW GROUND SURFACE (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

CHANGE IN MATERIAL TYPE (DASHED WHERE INFERRED) CHANGE IN DEPOSIT TYPE (DASHED WHERE INFERRED)

BORING NO. _

WELL NO. M&A-117

Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fax: (617) 275-5651

	> 1 1 LL / 1 1 UT	N DIAGRAM	3104 447
COMPANY		PROJ. NO. 87024.82	M&A-117
E PARK IL.			
	DRILLER DENNIS		•
	DATE <u>8/6/97</u>		OCATION SEE SITE PLAN
		5:5:4:504 700 05 05 05	671.40
/			634.48
		ELEVATION-TOP OF RISER PIPE	634,16
_/		-	
W/_			
		Ķ.	
		TYPE OF SURFACE SEAL	CONCRETE
		ID DE SURFACE CASINO	6 INCHES
			W.T. FLUSH ROAD BOX
		TYPE OF SURFACE CASING	M.I. FEUSH KUAU BUA
		EPTH-BOTTOM OF SURFACE CASING	10 INCHES
		EPTH_ROTTON OF SUBSACS SEAL /	8 INCHES
		TOP OF BACKFILL	U INCHES
<u>-</u>		RISER PIPE:	
		TYPE	SCHEDULE 40 PVC
<u> </u>		NOMINAL DIAMETER	2 INCHES
		—— DIAML OF BOREHOLE	8 INCHES
		•	N/A
		THE OF BACKIE	
[]	- <u>-</u>		
		DEPTH-TOP OF SEAL	8 INCHES BENTONITE CHIPS
<i>'///</i>			24 FEET
	-	TYPE OF FILTER PACK	SILICA SAND
		DEPTH-TOP OF SCREEN	25 FEET
=			SCHEDULE 40 PVC
	1		2 INCHES
=		•	0.01 INCHES
		SLOT TYPE	MACHINE SLOTTED
, =	1		·
		DEPTH-BOTTOM OF WELL	30 FEET
	· · · · · · · · · · · · · · · · · · ·	DEPTH-TOP OF SEAL, IF ANY	31 FEET
		TYPE OF SEAL	BENTONITE CHIPS
		הרפדון	37 FEET
	COMPANY SE PARK II.	COMPANY DRILLER DENNIS DATE 8/6/97 DATE 10/6/97	COMPANY PROJ. NO. B7024.82 DATE B/6/97 DATE 10/6/97 ELEVATION - TOP OF CASING ELEVATION - TOP OF CASING ELEVATION - TOP OF RISER PIPE TYPE OF SURFACE CASING DEPTH-BOTTOM OF SURFACE CASING DEPTH-BOTTOM OF SURFACE SEAL/ TOP OF BACKFILL RISER PIPE: TYPE NOMINAL DIAMETER DIAM. OF BOREHOLE TYPE OF FILTER PACK TYPE OF FILTER PACK TYPE OF FILTER PACK TYPE OF FILTER PACK TYPE OF FILTER PACK TYPE OF FILTER PACK TYPE OF SCREEN SCREENED SECTION: TYPE NOMINAL DIAMETER SLOT SIZE SLOT TYPE DEPTH-BOTTOM OF WELL DEPTH-TOP OF SEAL, IF ANY

MONITORING WE		• (617) 275-6050 • Fax:(617) 275	5-5651
PROJECTION LINDBERG HEAT TREATING			M&A-118
OCATION 1975 NORTH RUBY ROAD, MELROS			$m \propto r + r = 0$
CONTRACTOR D&G DRILLING			
		· · · · · · · · · · · · · · · · · · ·	OCATION SEE SITE PLAN, REFER TO
GCCED BY GCL			BORING LOG M&A-118
CHECKED BY DJS	DAIE 10/6/9/		
		ELEVATION— TOP OF CASING	634.47
		ELEVATION—TOP OF RISER PIPE	
		ELEVATION - TOP OF RISER PIPE	034,03
***************************************	JAN THEN XXXX		
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;		TYPE OF SURFACE SEAL	<u>C</u> ONCRETE
			6 INCHES
		I.D. OF SURFACE CASING	
		TYPE OF SURFACE CASING	W.T. FLUSH ROAD BOX
		- DEPTH-BOTTOM OF SURFACE CASING	10 INCHES
		_ DEPTH-BOTTOM OF SURFACE SEAL/	1 FOOT
	<u> </u>	TOP OF BACKFILL	
		RISER PIPE:	SCHEDULE 40 PVC
	1 - -	NOMINAL DIAMETER	2 INCHES
		———— DIAM, OF BOREHOLE	4 INCHES
м.		TYPE OF BACKFILL	N/A
	ļ — — — — — — — — — — — — — — — — — — —	TIPE OF BACKFILL	
			. 5007
		DEPTH—TOP OF SEAL TYPE OF SEAL	1 FOOT BENTONITE CHIPS
		DEPTH-TOP OF FILTER PACK	4 FEET
		TYPE OF FILTER PACK DEPTH-TOP OF SCREEN	SILICA SAND 4.5 FEET
		SCREENED SECTION:	
		TYPE	SCHEDULE 40 PVC
		NOMINAL DIAMETER	2 INCHES
	· = '	SLOT SIZE	0.01 INCHES
		SLOT TYPE	MACHINE SLOTTED
		DEPTH-BOTTOM OF WELL	14.5 FEET
	7777777	DEPTH-TOP OF SEAL, IF ANY	N/A
		TYPE OF SEAL	NONE
NOT TO SCALE		DEPTH-BOTTOM OF BOREHOLE	15 FEET

Mabbett & Associates, Inc.

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POJECT/CL	ENT LIND	BERG HEAT	REATING C	COMPANY		LOCATION	MELROSE PARK, IL PROJ. NO. 87024.82 BORING NO					
RING LOCATION SEE SITE PLAN DATE START/FINISH 8/6/97 / 8/6/97 WELL NO SITE F 10 0311860001 COUNTY COOK FEDERAL ID. NO. IDL005071808 DUADRAINGE RIVER FOREST, IL SECTION 33.2b T. 40N R. 12E DRILLING EQUIPMENT 4 1/4" ID HOLLOW STEM AUGER PG. 1												
ans ES W	0311860	001 C	OUNTY C	:00K	FEDE	RALID NO. IDLO	05071808					
DUADRAMOLI	RIVER F	OREST, IL	SECTION	33.2b	T. <u>40N</u> R.	12E DRILLING EQU	JIPMENT 4 1/4" ID HOLLOW STEM AUGER PG. 1 OF 3					
OUND ELE	VATION (NO	GVD)		<u>.</u>	CONTRACTOR	COL	FOREMAN BOB					
OUNDWAT	ER EL/DEP	THSAMP			LOGGED BY L	GUL	CHECKED BYDJS DATE 10/6/97					
EPTH FT.	TYPE and NO.	BLOWS PER 6 IN.	PEN I n .	REC IN.	HEADSPACE PPM	REMARKS	SOIL AND ROCK DESCRIPTIONS					
·							CONCRETE -					
					1	}						
		:	-									
'		5		}			-					
		30	•			İ	(FILL) DRY, VERY DENSE, BLACK/BROWN MEDIUM SAND,					
2	\$S-1		24	16	2.5	NO ODOR	LITTLE FINE TO MEDIUM GRAVEL, LITTLE SILT,					
		17					TRACE SLAG/CINDER.					
		10										
: 3	4	_				1						
	3	. 2				OCTROLEUM.	· -					
	SS-2	3	24	16	1.0	PETROLEUM ODOR	(LACUSTRINE) DAMP, STIFF, GRAY SILT, LITTLE FINE TO MEDIUM					
4	33-2	5	. 24	"	1.0	SMALL	GRAVEL, TRACE COARSE SAND, TRACE CLAY					
					-	PETROLEUM Globules in	· 					
5	}	4				FRACTURES						
. '		1				ļ						
		2				TAN MOTTLING	A LEGISTRUIS COM COM VOIT OF MY OUT OF MY					
- 6	SS-3	3	24	20	0.5	SLIGHT PETROLEUM	(LACUSTRINE) DAMP, FIRM, LIGHT GRAY SILT, SOME CLAY, — LITTLE FINE GRAVEL, TRACE COARSE SAND, —					
		,				ODOR	TRACE MEDIUM GRAVEL					
. 7		4 .		1			·					
' '	3	4					-					
- [3						-					
. 8	SS-4	5	24	15	0.0		(LACUSTRINE) DAMP, VERY STIFF, TAN SILT, LITTLE FINE TO					
<u>.</u> :		9		ļ		110 0000	MEDIUM GRAVEL, LITTLE CLAY, TRACE COARSE - SAND					
- }	3	13				NO ODOR	-					
9		5					• • • • • • • • • • • • • • • • • • •					
-		i										
10	SS-5 ·	10	24	24	0.0	****	(LACUSTRINE) DAMP, VERY STIFF, LIGHT GRAY SILT, LITTLE —					
		13					FINE TO MEDIUM GRAVEL, LITTLE CLAY, TRACE COARSE SAND					
-		13					COARSE SAIVO.					
: 11	4						·					
-	3	4				NO ODOR	-					
- [9	7		,	0.0	NO OOK						
12	SS-6	9	24	3	0.0							
- 13	\geq	11			1							
		4				SUGHT	(LACUSTRINE) DAMP, VERY STIFF, GRAY SILT, SOME CLAY,					
	\$S-7	7	24	24	0.5	UNDETERMINED ODOR	LITTLE FINE TO MEDIUM GRAVEL, TRACE COARSE SAND.					
14 P	6° =140 IP	HANNER FAI	IING 30° T	O DRIVE A	2.0 IN. O.D.							
UAU F AC	OWS PFR 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. SPLIT SPOON SAMPLER SPLIT SPOON SAMPLER DEPTH=DEPTH BELOW GROUND SURFACE											

PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP.

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fax: (617) 275-5651

POJECT/	CLIENT LIND	BERG HEAT	TREATING C	OMPANY		LOCATION	MELROSE PARK,	L PROJ. NO. 87024.82	BORING NO
RING L	OCATION	EE SITE PLA	N			DATE STA		/6/97 / 8/6/97	WELL NO. M&A-119
SIE F	10. 03118600	001 C	COUNTY C	00K	FEDE	RAL ID. NO. <u>IDLO</u>	05071808	IN LIGHT ON CITCLE ALTOCO	[
DUADRAIL	<u> RIVER F</u>	OREST, IL	SECTION	33.26	T. 40N R.	<u>12E</u> DRILLING EQI D&G DRILLING INC	UIPMENT 4 1/4	ID HOLLOW STEM AUGER	PG. 2 OF 3
						D&G DRILLING, INC. GGL	FUKEMAN	DJS DATE 10/6/97	:
WUNUC	ATER EL/DEP	SAMF			LOGGED BY .		CHECKEU BT .	OOS OAIE 1970/3/	L
PTH FT.	TYPE and NO.	BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIPT	ions
		8					11 1,81 H		
1		11				·			
- 15		11	-						_
,,,		4				-			-1
		7				SLICHT			<u>-</u>
- 16	SS-8		24	14	0.0	UNDETERMINED ODOR	.(LACUSTRINE)	DAMP, VERY STIFF, GRAY SILT COARSE SAND, TRACE FINE TO	AND CLAY, LITTLE
		9				OUOK		CONUSC SAND, TRACE THE TO	MEDIUM GRAYEL
_		11]			_
17		3							_
									_
18	SS-9	3	24	24	0.0	NO ODOR	(LACUSTRINE)	DAMP, STIFF, GRAY SILT AND	CLAY, LITTLE —
		5	_					COARSE SAND, TRACE FINE GR	AVEL.
•		8							
19	X			ļ	,				
		4		•		1			- · · -
	3	8			0.0				_
20	SS-10	17	24	24	0.0	ļ			
-					1	<u> </u>			
21		35				1			_
		23							. –
		57				NO ODOR			_
22	SS-11	37	24	20	0.0	SHALY CLEAVAGE &	(LACUSTRINE)		RY FINE SAND AND —
_		78				HORIZONTAL		SILT, TRACE COARSE SAND.	-
•		77		-		FRACTURING FOR ENTIRE			-
23		12				FINE SAND			
-			1			STRATUM			-
24	SS-12	18	24	24	0.0	NO ODOR	(LACUSTRINE)	DAMP/DRY, VERY DENSE, GRA	Y FINE SAND —
4.7		26					(2.1220.12)	TRACE COARSE SAND.	-
• -		32							-
25		J 32							_
		10		İ					-
		15]			NO ODOD	le a management		
- 26	SS-13	16	24	22	0.0	NO ODOR	(LACUSTRINE)	DAMP/DRY, DENSE, GRAY VER SILT, TRACE COARSE SAND.	Y FINE SAND AND
		10		-		VEIN AT ~26.8.		SICTY THROUGHOUSTINGS SAITUS	-
_ — 27		18				FEET			<u>-</u>
21		11					/LACHETOINE)	DOV DENCE COAY WEDVICTOR	CAND AND CUT
_	SS-14	18	24	24	0.0	NO ODOR	(LACUSTRINE)	DRY, DENSE, GRAY VERY FINE TRACE COARSE SAND.	. JAMU ANU DILI, -
28			<u> </u>			1	<u> </u>		
1	বে 6" ≃140 LB. SPLIT S	SPOON SAMPL	er					TH OF SOUND CORES >4 IN./LENG	IH CORED,%
	EN=PENETRATI	on length o	f sampler	OR CORE	BARREL			PTH BELOW-GROUND SURFACE RAPHICAL COLUMN SHOWS LOCATIO	N OF SAMPLE)

REC=RECOVERY LENGTH OF SAMPLE SS=SPUT SPOON SAMPLE S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP.

WATER TABLE (APPROX)

Mabbett & Associates, Inc.

Five Alfred Circle, Bedford, Mossochusetts 01730 • (617) 275-6050 • Fax:(617) 275-5651

			2500 UEAT 7	7517110 0	OUD LUV			METOUSE DADA	II 97024 92	1	_
PROJECT/	CLIEN	<u>יטאט דו UNU</u>	BERG HEAT	KEATING C	OMPANT				IL PROJ. NO. 87024.82	1	l l
PRING LO	CAT	UI1	EE SITE PLAN				DATE STA	· · · / · · · · · · · · · · · · · · · ·	8/6/97 / 8/6/97	- WELL NO. M&A-11	19
SITE F	۷O	03118600	001 CI	DUNTY C	00K	FEDE	RAL ID. NO. <u>IDLO</u>	1050/1808	Lin Holl on Strik Hosen	PG. 3 OF 3	
QUADh	LE .	RIVER F	OREST, IL	SECTION .	33.2b	T. 40N R.	12E DRILLING EQ	UIPMENT 4 1/4	ID HOLLOW STEM AUGER	1 G. J OI J	'
							D&G DRILLING, INC.	FOREMAN	0/0	- .	Ì
~ KONNDA	ATER	EL/DEP				LOGGED BY _	GUL	CHECKED BY	DJS DATE 10/6/97	_	
			SAMP			1					
EPTH FT.	c	TYPE and NO.	BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRI	PTIONS	
_	N		20		•						4
			23				<u> </u>	(, e , e , e , e , e , e , e , e , e ,	2004 1504 2055 2104 204	LOUT TO LOCK CHE	
29	7	[NO ODOR	(LACUSTRINE)	DRY, VERY STIFF, DARK GRA' GRAVEL, TRACE COARSE SAN		
-			10				DIAGONAL		DIMPEL MINOC COMISE SIM	o, mnoe oem.	-
			18			1	FRACTURING				
30		SS-15	10	24	20	0.0					\dashv
-			15				BLACK FINE SAND BANDING	(OUTWASH)	WET, MEDIUM DENSE, GRAY F	INE SAND, TRACE	
=. :			16			0.0	SANU DANDING		COARSE SAND.		-
: 31			_				NO ODOR	(OUTWASH)	WET, MEDIUM DENSE, WHITE/	BLACK COARSE	
- -			6				FLOWING SAND		SAND, LITTLE FINE TO MEDIU		4
			10	0.4	200	0.0	JAMMED AUGER,		SILT.		
32	N	SS-16	20	24	20	0.0	RE-ORILLED 30-34 FEET TO				
_							SET WELL.				+
7.7			21			İ					
33			7								4
-											┪
		SS-17	19	24	12	0.0	NO ODOR	(TILL)	WET, DENSE, GRAY COARSE	SAND AND FINE TO	\Box
34		33-17	22	۷,	, , ,		110 00011	, ,	MEDIUM GRAVEL, SOME SILT,		
_					1						
- 35			18								
- 33					1	ľ			BOTTOM OF BORING AT 35 F		-
									WELL INSTALLED AT 34 FEET	•	
 '-								NOTES	1. CONCRETE DRILLED WITH SOL FINGER BIT.	ID STEM AUGER	
H] .	2. AUTOMATIC HYDRAULIC HAMA	וכס ווזווזכה בהס	
T .									SPLIT SPOON ADVANCEMENT.	ICK ONCIZED TOK	-
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٢											
LOWS PE	R 6		. HAMMER FAI		O DRIVE A	2.0 IN. 0.D.		RQD=LEN	GTH OF SOUND CORES >4 IN./LE	NGTH CORED,%	
	. N=5	SPLIT PENETRAT	SPOON SAMPLI ION LENGTH O	er Fisampier	OR CORE	BARREL		,	EPTH BELOW GROUND SURFACE		
	, _ ;		الافتادات والمناور						CONDUCATE COLUMN CHORE LACE	DAN AC CANDIC	

REC=RECOVERY LENGTH OF SAMPLE SS=SPLIT SPOON SAMPLE S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP. (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Mabbett & Associates, Inc. Environmental Consultants & Engineers Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fax: (617) 275-5651 INSTALLATION DIAGRAM M&A-119 CLIENT LINDBERG HEAT TREATING COMPANY ____ PROJ. NO. <u>87024.82</u> PROJ DOCATION 1975 NORTH RUBY ROAD, MELROSE PARK IL. CONTRACTOR D&G DRILLING DRILLER BOB LOCATION SEE SITE PLAN ______ DATE <u>8/6/97</u> DOGED BY GOL LHECKED BY DJS DATE 10/6/97 634,46 ELEVATION - TOP OF CASING 634,12 ELEVATION-TOP OF RISER PIPE - TYPE OF SURFACE SEAL CONCRETE 6 INCHES - I.D. OF SURFACE CASING W.T. FLUSH ROAD BOX - TYPE OF SURFACE CASING 10 INCHES DEPTH-BOTTOM OF SURFACE CASING 1 F00T DEPTH-BOTTOM OF SURFACE SEAL/ TOP OF BACKFILL RISER PIPE: SCHEDULE 40 PVC TYPE 2 INCHES NOMINAL DIAMETER 8 INCHES - DIAM. OF BOREHOLE N/A - TYPE OF BACKFILL 1 F00T DEPTH-TOP OF SEAL BENTONITE CHIPS TYPE OF SEAL DEPTH-TOP OF FILTER PACK 27 FEET SILIÇA SAND TYPE OF FILTER PACK 29 FEET DEPTH-TOP OF SCREEN SCREENED SECTION: SCHEDULE 40 PVC TYPE 2 INCHES NOMINAL DIAMETER 0.01 INCHES SLOT SIZE MACHINE SLOTTED SLOT TYPE 34 FEET .. DEPTH-BOTTOM OF WELL N/A DEPTH-TOP OF SEAL, IF ANY NONE TYPE OF SEAL 35 FEET NOT TO SCALE DEPTH-BOTTOM OF BOREHOLE

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	Five Alfred Circle, Bedford, Mossochusetts 01730 • (617) 275-6050 • Fox:(617) 275-5651									
ROJECT/CLIENT LINDBERG HEAT TREATING COMPANY LOCATION MELROSE PARK, IL PROJ. NO. 87024.82 BORING NO										
ORING LOCATION SEE SITE PLAN DATE START/FINISH 8/5/97 / 8/5/97 WELL NO. M&A-120 ORING LOCATION SEE SITE PLAN DATE START/FINISH 8/5/97 / 8/5/97 WELL NO. M&A-120										
SITE NO	03118600	001 C	OUNTY CO	OOK	FFDFI	RALID. NO. IULI	005071808		PG. 1 OF 2	
TUADRANGL	RIVER F	OKESI, IL	SECTION :	33.∠ <u>D</u>	T. 4UN R.	12E DRILLING EC	QUIPMENT <u>+ 1/4</u> FOREMAN _D	ID HOLLOW STEM AUGER	FG. I OF Z	
								GGL DATE 10/6/97		
GROUNUWAT	ER EL/DEP	SAMP			LOGGED BY .	503	CHECKED BT	UAIE_!V/0/3/		
DEPTH	TYPE	BLOWS	PEN	REC	HEADSPACE	'REMARKS		SOIL AND ROCK DESCRIPT	IONS	
FT.	and NO.	PER 6 IN.	IN.	IN.	PP M	TTE IN THE STATE OF		SOIC 7410 NOON DESCRIP	10113	
								CONCRETE		
						ļ		OUTUAL IE		
								-		
_ '		A	.							
		7					(FILL)	DAND LOOCE DED /DOORS HE	Distriction -	
_ , [SS-1	2	24	15	1.0		(1100)	DAMP, LOOSE, RED/BROWN ME	DIOM SAND	
		3					(LACUSTRINE)	DAMP, FIRM, BROWN/BLACK SI	LT. SOME CLAY.	
		3						, , , , , , , , , , , , , , , , , , , ,		
- 3	₹						-			
- [2								
		2	-		_	COLOR	(1.40) (CTO(1))	0.000 CON 001V CUT COVE	_	
4	SS-2	3	24	22	0.5	VARIATION	(LACUSTRINE)	DAMP, FIRM, GRAY SILT, SOME	CLAY.	
						BROWN/BLACK TO GRAY TO				
		3				MOTTLED				
_ 3		1							-	
-		,							-	
- a	SS-3	1	24	20	3.5		(LACUSTRINE)	DAMP, FIRM, RED/GRAY SILT,	SOME CLAY.	
-		2						, , ,,,	-	
-		3								
- 7	4								· -	
	3	4			}			· · · · · · · · · · · · · · · · · · ·		
'	\\	3			5.0		(2007000)			
_ 8 {	SS-4	3	24	18	5.0		(OUTWASH)	WET, LOOSE, GRAY MEDIUM SA TRACE COARSE SAND, TRACE		
- [[. .						made donates state, made	-	
'. _ 9 •	3	3		1			*		_	
- 9 F		3								
-		6								
- 10	SS-5	"	24	24	0.5	1	(LACUSTRINE)	DAMP, VERY STIFF, CRAY SILT	וודווד מ אץ	
,		10					(2.10001111112)	TRACE MEDIUM SAND.	, aries ocari,	
		12				<u> </u>	1			
- 11	4									
- }	3	2		1			1	•	7	
- 12	Y	5					(LACUSTRINE)	CHIRAD TO CC 5 DOTTOR		
- 12	SS-6	7	24	21	0.0		(LACUSTRINE)	SIMILAR TO SS-5 BOTTOM.		
г [3								· —	
F_ 13	3	10							_	
, ,		2		-			(LACUSTRINE)	DAMP, STIFF, GRAY SILT, LITT	E CLAY TRACE	
Ľ	SS-7	3	24	24	0.5		(EACOSIMILE)	MEDIUM SAND, TRACE FINE G		
14			<u> </u>	<u> L</u>			<u> </u>			

LOY TR 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. SPLIT SPOON SAMPLER

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID,

RQD=LENGTH OF SOUND CORES >4 IN./LENGTH CORED,%

DEPTH=DEPTH BELOW GROUND SURFACE

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

¥ WATER TABLE (APPROX)

Mabbett & Associates,

= Environmental Consultants & Engineers

Five Alfred Circle, Bedford, Mossachusetts 01730 • (617) 275-6050 • Fox: (617) 275-5651 PROJECT/CLIENT LINDBERG HEAT TREATING COMPANY ___ PROJ. NO. <u>87024.82</u> LOCATION MELROSE PARK, IL BORING NO. 8/5/97 / 8/5/97 SEE SITE PLAN RING LOCATION _date start/finish _ WELL NO. M&A-120 FEDERAL ID. NO. __IDL005071808 E FILE NO. 0311860001 COUNTY COOK PG. 2 OF 2 RIVER FOREST, IL SECTION 33.2b T. 40N R. 12E DRILLING EQUIPMENT 4 1/4" ID HOLLOW STEM AUGER DUADR (CONTRACTOR D&G DRILLING, INC. FOREMAN DENNIS POUND ELEVATION (NGVD) _____ DJS CHECKED BY ___GCL DATE 10/6/97 LOGGED BY DUNDWATER EL/DEPTH SAMPLE HEADSPACE DEPTH BLOWS PEN REC TYPE REMARKS SOIL AND ROCK DESCRIPTIONS and NO. PER 6 IN. PPM FT. 5 7 15 BOTTOM OF BORING AT 15 FEET. WELL INSTALLED AT 15 FEET. NOTES: 1. CONCRETE DRILLED WITH SOLID STEM AUGER FINGER BIT. 3. AUTOMATIC HYDRAULIC HAMMER UTILIZED FOR SPLIT SPOON ADVANCMENT. BLOWS PER 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. ROD=LENGTH OF SOUND CORES >4 IN. /LENGTH CORED. % SPLIT SPOON SAMPLER DEPTH=DEPTH BELOW CROUND SURFACE 1=PENETRATION LENGTH OF SAMPLER OR CORE BARREL (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE) INCERECOVERY LENGTH OF SAMPLE SS=SPLIT SPOON SAMPLE WATER TABLE (APPROX) SM = MACRO CORE SOIL SAMPLE CHANGE IN MATERIAL TYPE (DASHED WHERE INFERRED) HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, CHANGE IN DEPOSIT TYPE (DASHED WHERE INFERRED) EQUIPPED WITH 10.2 eV LAMP.

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Five Alfred Circ	tle, Bedford, Massachusetts 01730	• (617) 2/5-6050 • Fax: (617) 27	5-5651
MONITORING V	VELL INSTALLATIO	ON DIAGRAM	140 4 400
DIECT CLIENT LINDBERG HEAT TREATIN	M&A-120		
OCATION 1975 NORTH RUBY ROAD, MELE	ROSE PARK IL.		
NTRACTOR D&G DRILLING	DRILLER _DENNIS		•
OCCED BY DJS		i	LOCATION _SEE SITE PLAN
ECKED BY GG			
		1	
		ELEVATION- TOP OF CASING	634.47
	/	ELEVATION—TOP OF RISER PIP	E 634,25
*XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		D.	
•		TYPE OF SURFACE SEAL	CONCRETE
:			6 INCHES
		TYPE OF SURFACE CASING	W.T. FLUSH ROAD BOX
-		DEDTH DOTTON OF CHOEVE CACING	10 INCHES
		DEPTH-BOTTOM OF SURFACE CASING	10 1143763
•		_ DEPTH-BOTTOM OF SURFACE SEAL/ TOP OF BACKFILL	8 INCHES
		RISER PIPE:	
		TYPE	SCHEDULE 40 PVC
	├ <u></u>	NOMINAL DIAMETER	2 INCHES
		DIAM. OF BOREHOLE	8 INCHES
		TYPE OF BACKFILL	N/A
			•
	- - -	OEPTH-TOP OF SEAL	8 INCHES
	Y//\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		BENTONITE CHIPS 4 FEET
		TYPE OF FILTER PACK	SILICA SAND
		DEPTH-TOP OF SCREEN	5 FEET
		SCREENED SECTION:	
	[]	TYPE	SCHEDULE 40 PVC
	=	NOMINAL DIAMETER	2 INCHES
		SLOT SIZE	0.01 INCHES
		SLOT TYPE	MACHINE SLOTTED
		DEPTH-BOITOM OF WELL	15 FEET
	biiiiiii	DEPTH-TOP OF SEAL, IF AN	
		TYPE OF SEAL	NONE .
NOT TO SCALE		DEPTH-BOTTOM OF BOREHO	LE 15 FEET

Mabbett & Associates. Inc. Environmental Consultants & Engineers Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fax (617) 275-ROJECT/CLIENT LINDBERG HEAT TREATING COMPANY LOCATION MELROSE PARK, IL PROJ. 5651 SEE SITE PLAN 8/5/97 ORING LOCATION DATE START/FINISH. NO. 87024.82 BORING NO. SITE NO. 0311860001 COUNTY COOK FEDERAL ID. NO. _____ IDL005071808 <u>8/5/97</u> T. 40N R. 12E DRILLING EQUIPMENT 4 1/4" ID HOLLOW STE QUADRANGLE RIVER FOREST, IL SECTION 33.26 WELL NO. M&A-12 CONTRACTOR D&G DRILLING, INC. FOREMAN JIM ROUND ELEVATION (NGVD) _ M AUGER PG. 1 OF 3 OJS LOGGED BY GROUNDWATER EL/DEPTH CHECKED BY __GGL ATE <u>10/6/97</u> HIGGE TYPE BLOWS PEN REC HEADSPACE REMARKS SOIL AND PER 6 IN. PPM FT. and NO. IN. ROCK DESCRIPTIONS DRY, LOOSE, LIC **√** CRETE (FILL) COARSE SAND, BROWN MEDIUM SAND, SOME TLE FINE TO MEDIUM GRAVEL, TRACE CLAY. 3 SS-1 24 24 3.5 3 (LACUSTRINE) DAMP, FIRM, C 2 3 SS-2 24 14 0.5 (LACUSTRINE) MOIST, STIFF, CRAY SILT. 1/2-INCH FINE (LACUSTRINE) DAMP, FIRM, GRAY SILT, LITTLE MEDIUM GRAVEL. BAND VEIN AT 5.5 FEET 0.5 SS-3 20 24 PETROLEUM ODOR 2 and stained soil 6.5 TO 7 FEET 2 (LACUSTRINE) DAMP, FIRM, GRAY SILT, LITTLE COARSE SAND. SS-4 24 18 1.5 WET, LOOSE, GRAY COARSE SAND, SOME SILT, SOME MEDIUM GRAVEL. (OUTWASH) SLICHT PETROLUEM ODOR (LACUSTRINE) MOIST, STIFF, GRAY SILT AND CLAY, TRACE FINE GRAVEL 22 SS-5 24 14.0 ĥ (LACUSTRINE) SIMILAR TO SS-5 BOTTOM. 8 SS-6 24 20 1.5 10 11 (LACUSTRINE) SIMILAR TO SS-5 BOTTOM. SS-7 24 22 0.5 ROD=LENGTH OF SOUND CORES >4 IN./LENGTH CORED.X =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. DEPTH=DEPTH BELOW GROUND SURFACE SPLIT SPOON SAMPLER CRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE) PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC=RECOVERY LENGTH OF SAMPLE WATER TABLE (APPROX) SS=SPLIT SPOON SAMPLE $\underline{\nabla}$ CHANGE IN MATERIAL TYPE

S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, FOUIPPFD WITH 10,2 eV LAMP.

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ROJECT	/CUE	NT LIND	BERG HEAT	TREATING C	OMPANY		LOCATION	MELROSE PARK, I	L PROJ. NO. 87024.82	BORING NO	
DRING I	L∩C∆1	אחר כ	SEE SITE PLA	N			DATE STA	ART/FINISH8	/5/97 _/ 8/5/97	WELL NO. M&A-121	
SITE	SITE (SUBMO 0311860001 COUNTY COOK						FEDERAL ID. NO10L005071808				
PUADRAI	NGLE	RIVER	OREST, IL	SECTION .	33.26	T. 4UN R.	<u>12E </u>	DIPMENT 4 1/4	IN HOLLOW SIEW AUGER	PG. 2 OF 3	
ROUND	ELEV	AIION (NO	5VD)			CONTRACTOR 1	n is	FOREMAN _DE	GCI 04TE 10/6/97	•	
GROUNDWATER EL /DEPTH LOGGED BY DJS CHECKED BY GGL									UAIE 1070737		
EPTH FT.		TYPE and NO.	BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS	- Apply April	SOIL AND ROCK DESCRIPT	nons	
	100		5								
. ,			_							4	
1 15			7						**		
15 			4							4	
			5				· ·			Ì	
<u></u> 16		SS-8	,	24	20	0.5		(LACUSTRINE)	SIMILAR TO SS-5 BOTTOM	_	
16			7								
!			8							4	
17		·								4444	
Γ.			2							_	
		SS-9	3	24	20	0.0		(LACHSTRINE)	SIMILAR TO SS-5 BOTTOM	_	
18		22-9	5	29	20	0.0		(ENCOSTRINE)	SIMPLIFIE COSO SI SINGIMIC	-	
1_			7						•	_	
- 19			,								
- "			3				-				
	N	•	6							-	
- 20 -		SS-10	23	24	20	0.0		(LACUSTRINE)	SIMILAR TO SS-5 BOTTOM	-	
F			29			ļ		(LACUSTRINE)	MOIST, DENSE, GRAY FINE SAM	iD.	
- 21			29	-				0.460070007	NATION FROM TO YOUR TO TO SAY		
_			15				THE GRAY	(LACUSTRINE)	DAMP, SIMILAR TO SS-5 BOTT	OM _	
			23				FINE SANDS EXHIBIT SHALY	(LACUSTRIALS)	DAMP, DENSE, CRAY FINE SAN	ID.	
- 22		SS-11		24	22	0.0	CLEAVAGE &	(LACUSTRINE)	DAMP, DENSE, GRAT FIRE SAN		
F		-	25		ļ		HORIZONTAL FRACTURING			- · · · · ·	
- 23			16	1							
r -			12		1			(LACUSTRINE)	DAMP, VERY STIFF, GRAY SILT COARSE SAND, TRACE FINE GR		
			13								
- 24		SS-12		24	20	0.0				· · · · · · · · · · · · · · · · · · ·	
-			20				-	(LACUSTRINE)	DAMP, DENSE, GRAY VERY FIN FINE GRAVEL	ie sand, trace	
-			23						FINE OWNER		
- 25			13					(LACUSTRINE)	MOIST, VERY STIFF, GRAY SIL	AND CLAY.	
			18						······································	_	
- 26		SS-13	10	24	22	0.0		(LACUSTRINE)	DAMP, VERY STIFF, GRAY SILT	r, some very fine —	
-			22.						SAND.	-	
-			17								
- 27	K		11					(LACUSTRINE)	WET, VERY STIFF, GRAY SILT	AND CLAY, LITTLE	
ì		SS-14		24	24	0.5		(LACUSTRINE)	MEDIUM GRAVEL. DRY, GRAY VERY FINE SAND.		
28		<u> </u>	13		<u> </u>			1 (5.550)	and the state of t	_	
OWe	~9 6°		HAMMER FAL		D DRIVE A	2.0 IN. O.D.		ROD=LENGT	TH OF SOUND CORES >4 IN./LENG	TH CORED,%	

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, FOURPERD WITH 10.2 eV LAMP

DEPTH=DEPTH BELOW GROUND SURFACE

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE) ☑ WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fax:(617) 275-5651

PROJECT/	CUE	NT LIND	BERG HEAT.	TREATING C	OMPANY		LOCATION	MELROSE PARK, IL PROJ. NO. 87024.82 BORING NO.	
TING LO	CAT	10N _	EE SITE PLA	N				ART/FINISH 8/5/97 / 8/5/97 WELL NO. M&A-121	l
FILE	NO	03118600	001 C	OUNTY C	33.0k	FEDER	RAL ID. NOIDLO	OLIPMENT 4 1/4" ID HOLLOW STEM AUGER PG. 3 OF 3	
DUADR :	, Ε., , εν	KIVEK F	UKESI, IL	SECTION 2	33.20	CONTRACTOR D	AG DRILLING EC		İ
AMUNDITE .	LE VI	FI /DEP	TH			LOGGED BY _	DJS	. 1	
			SAMP						
0EPTH		TYPE	BLOWS	PEN IN.	REC In.	HEADSPACE PPM	REMARKS	SOIL AND ROCK DESCRIPTIONS	
Ţ. 		and NO.	PER 6 IN.	111.	314.	FFM	<u> </u>] 1
			15						
			17			1		(LACUSTRINE) DAMP, HARD, GRAY SILT, LITTLE CLAY, TRACE	
29								COARSE SAND, TRACE MEDIUM SAND.	j
			12						-
. 70		SS-15	15	24	24	0.0		(OUTWASH) DRY, DENSE, BLACK/ WHITE MEDIUM SAND,	
30		22-12	18	24	27	0.0		TRACE SILT.	
	Ø		22					-	1
- 31	M		24					_	1
	N		7					(TILL) DAMP, VERY STIFF, GRAY SILT, SOME CLAY, LITTLE VERY FINE SAND, TRACE COARSE SAND.	1
ī.,	N		8					Effect feet the state state state.	1
32		SS-16	14	24	24	0.0			1
		•						_	-
- - 33			15	-	ļ				-
					1			BOTTOM OF BORING AT 33 FEET. WELL INSTALLED AT 33 FEET.	1
-									-
								NOTES 1. CONCRETE DRILLED WITH SOUD STEM AUGER FINGER BIT.	1
• •					1				-
-								2. AUTOMATIC HYDRAULIC HAMMER UTILIZED FOR SPUT SPOON ADVANCEMENT.	1
			<u> </u>	į					-
									7
			 				į	-	1
•									4
-								<u></u>	1
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- '									1
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			1						_
<u> </u>								-	\dashv
<u>.</u>									1
									+
-									7
		<u> </u>				0.0 411 0.0	<u> </u>		4
BLOWS PE		SPUT :	. HAMMER FAI SPOON SAMPL	ER				RQD=LENGTH OF SOUND CORES >4 IN./LENGTH CORED,%	
1		PENETRATI	ON LENGTH O	F SAMPLER	OR CORE E	BARREL		DEPTH=DEPTH BELOW GROUND SURFACE (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)	
			LENGTH OF S N SAMPLE	DAMPLE.				₩ WATER TABLE (APPROX)	
S	=SA	MPLE TAK	EN OFF AUGE		vc coasts:	ue with ore			
- F	iE AD	SPACE=RE	SULT OF FIEL JUIPPED WITH	U HEADSPAC 1 <u>0.2 e</u> V LAN	AP.	NG WITH PID,		CHANGE IN DEPOSIT TYPE (DASHED WHERE INFERRED)	

Five Alfred Circle	e, Bedford, Massach	nusetts 01730 •	(617) 275-6050 ● Fax: (617) 275	5-5651
MONITORING WI	ELL INST.	ALLATIO	N DIAGRAM	
ROJECT/CLIENT LINDBERG HEAT TREATING	COMPANY		PROJ. NO. <u>87024.82</u>	M&A-121
OCATION 1975 NORTH RUBY ROAD, MELRO	SE PARK IL			
ONTRACTOR D&G DRILLING		er <u>Dennis</u>		
OGGED BY DJS				OCATION SEE SITE PLAN
HECKED BY GG				
TECRED D1 _DDC				
•				
			ELEVATION— TOP OF CASING	634.49
			ELEVATION-TOP OF RISER PIPE	
			ccc//mon for or mock file	
KYKYKYKYKYKYK	Salit A		>>	
			%	
,			TYPE OF SURFACE SEAL	CONCRETE
				6 INCHES
				W.T. FLUSH ROAD BOX
			TYPE OF SURFACE CASING	THE TEODER NOW BOX
			DEPTH-BOTTOM OF SURFACE CASING	10 INCHES
			DEPTH-BOTTOM OF SURFACE SEAL/	8 INCHES
	<u></u>	_	TOP OF BACKFILL	
			Riser Pipe; Type	SCHEDULE 40 PVC
	-	-	NOMINAL DIAMETER	2 INCHES
		_	——— DIAM. OF BOREHOLE	8 INCHES
		_	TYPE OF BACKFILL	N/A
		-	TIPE OF BAGAFILE	П/А
	-	_ _		
	-	_ [B INCHES
		7	—— DEPTH-TOP OF SEAL TYPE OF SEAL	8 INCHES BENTONITE CHIPS
	7/4 /2	4	DEPTH-TOP OF FILTER PACK	27 FEET
			TYPE OF FILTER PACK DEPTH-TOP OF SCREEN	SILICA SAND 28 FEET
			SCREENED SECTION:	20 () ()
			TYPE	SCHEDULE 40 PVC
			NOMINAL DIAMETER	2 INCHES
		1	SLOT SIZE	0.01 INCHES
		1	SLOT TYPE	MACHINE SLOTTED.
			DEPTH-BOTTOM OF WELL	33 FEET
		L .:	DEPTH-TOP OF SEAL, IF ANY	N/A
•			TYPE OF SEAL	NONE
NOT TO SCALE			DEPTH-BOITOM OF BOREHOLE	. 33 FEET
MOT TO DOMEL		4 4	ULITETULE OF DUNCTULE	

Mabbett & Associates, Inc.

Five Alfred Circle, Bedford, Mossochusetts 01730 • (617) 275-6050 • Fox: (617) 275-5651

PROJECT/CI	IENT LIND	BERG HEAT T	REATING (COMPANY.		LOCATION	MELROSE PARK, IL PROJ. NO. 87024.82 BORING NO.				
RING LOC	-	EE SITE PLAI					ART/FINISH 8/7/97 / 8/7/97 WELL NO. M&A-122				
a E FILE N	o. <u>03118600</u>	001 C	OUNTY C	:00K	FEDE	ral ID. No ^{IDLI}	005071808				
DUADH	E RIVER F	orest, il	SECTION	33.2b	T. 40N R.	12E DRILLING EC	DUIPMENT 4 1/4" ID HOLLOW STEM AUGER PG. 1 OF 3				
							FOREMAN JIM				
OUNDWAT	ER EL./DEP			 .	LOGGED BY	GGL	CHECKED BYDJ\$ DATE 10/6/97_				
CEPTH FT.	TYPE and NO.	SAMP BLOWS PER 6 IN.	PEN In.	REC IN.	HEADSPACE PPM	REMARKS	SOIL AND ROCK DESCRIPTIONS				
							TOP SOIL				
2						HAND DUG TO DEPTH OF 3 FEET TO CLEAR POSSIBLE UTILITIES	(FILL) DAMP, BROWN MEDIUM SAND, SOME SILT, SOME CONCRETE RUBBLE, TRACE FINE TO MEDIUM GRAVEL, TRACE COARSE SAND.				
4 5	SS-1	2 3 3 4 2	24	20	5.0	NO ODOR GRAY MOTTLING	(LACUSTRINE) MOIST, FIRM, TAN CLAY, SOME SILT, LITTLE FINE — TO MEDIUM GRAVEL, TRACE COARSE SAND.				
6	SS-2	3 7 7	24 .	20	18.0	NO ODOR DIAGONAL FRACTURING	(LACUSTRINE) DAMP, STIFF, BROWN/GRAY SILT AND CLAY, LITTLE FINE TO MEDIUM GRAVEL, TRACE COARSE SAND.				
8	55-3	5 8 9 10	24	16	0.5	NO ODOR	(LACUSTRINE) MOIST, VERY STIFF, GRAY SILT, SOME CLAY, LITTLE COARSE SAND, TRACE FINE GRAVEL.				
9	SS-4	3 5 5	24	24	5.5	NO ODOR DIAGONAL FRACTURING AT 9'	(LACUSTRINE) MOIST, STIFF, GRAY CLAY, SOME SILT, LITTLE FINE GRAVEL, TRACE MEDIUM GRAVEL, TRACE COARSE SAND				
11 - 12 - 13 - 13 - 13 - 13 - 13 - 13 -	SS-5	6 8 11	24	24	0.0	NO ODOR DIAGONAL FRACTURING	(LACUSTRINE) MOIST/WET, VERY STIFF, GRAY CLAY, SOME SILT, TRACE COARSE SAND, TRACE FINE GRAVEL.				
- 14	SS-6	2	24	24	0.0	NO ODOR	(LACUSTRINE) SIMILAR TO SS-5				
ιLN	DWS PER 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. 0.D. SPLIT SPOON SAMPLER LN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC=RECOVERY LENGTH OF SAMPLE REC=RECOVERY LENGTH OF SAMPLE REC=RECOVERY LENGTH OF SAMPLE										

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP.

WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 . (617) 275-6050 . Fox: (617) 275-5651

		BERG HEAT	REATING C	OMPANY			MELROSE PARK, IL PROJ. NO. 87024.82 BORING NO	-
RING LOC	POILVI	SEE SITE PLA			CCDCI	DATE STA RAL ID. NO 1 01.0	1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2
SHE FI' Y	C BIVER F	DREST II	OUNIY SECTION	33.2b	FEDEI т40N р	RAL ID. NO. <u>1000</u> 12F DRILLING FO	OUIPMENT 4 1/4" ID HOLLOW STEM AUGER PG. 2 OF 3	_
OLIND FI	EVATION (NO	(VD)	SECTION .		CONTRACTOR	O&G DRILLING, INC.	FOREMAN JIM	
					LOGGED BY _		CHECKED BYDATE 10/6/97	
		SAMP						ヿ
EPTH FT.	TYPE and NO.	Blows Per 6 in.	PEN IN.	REC In.	HEADSPACE PPM	REMARKS	SOIL AND ROCK DESCRIPTIONS	
		6						7
		9			<u> </u>			亅
15	4	_						\dashv
- "		4		ļ				
		5		1		n		-
16	SS-7		24	20	0.0	NO ODOR	(LACUSTRINE) DAMP, VERY STIFF, GRAY SILT, SOME CLAY, TRACE COARSE SAND, TRACE FINE TO MEDIUM	-
- 1	3	8					GRAVEL.	
		9				-		4
17		_		-				7
Ť :		5			:			+
18	SS-8	9	24	24	0.0	NO ODOR	(LACUSTRINE) DAMP, VERY STIFF, GRAY SILT, LITTLE CLAY,	7
- 10		15					TRACE COARSE SAND, TRACE FINE GRAVEL.	ᆸ
- 3 (34		ļ				コ
19		1				440.00.00		-
-		15				NO ODOR SHALY]
		25				CLEAVAGE &	// ACUSTOMICS	-
20	SS-9	37	24	20	0.0	HORIZONTAL FRACTURING	(LACUSTRINE) DAMP/DRY, VERY DENSE, GRAY VERY FINE SAND, SOME SILT.	-
-						FINE SAND		-
21		52				STRATUM		_
۷۱		21						
-		41						7
22	SS-10	71	24	24	0.0	NO ODOR	(LACUSTRINE) SIMILAR TO SS-9	\exists
		55]
-		42						
23	M	7		1.			(LACUSTRINE) DAMP, VERY STIFF, GRAY SILT, SOME VERY FINE	
- '							SAND, TRACE COARSE SAND, TRACE FINE	
- 24	SS-11	12	24	24	0.0	NO ODOR	GRAVEL.	
24	N 22	16				110 000.		_
- '		21						_
25		21			+	ł		_
:		14						_
_		16					(LACUSTRINE) DAMP/DRY, DENSE, GRAY VERY FINE SAND SOME	-
— 26	SS-12	16	24	24	0.0	NO ODOR SHALY	SILT.	
		15				CLEAVAGE		_
07		11				NO ODOR		_
— 27	1	9				DIAGONAL	(LACUSTRINE) DAMP, VERY STILL, GRAY SILT, LITTLE CLAY,	-
<u>۔</u>	SS-13	g	24	20	0.0	FRACTURE WITH 1/32"	TRACE COARSE SAND, TRACE FINE TO MEDIUM GRAVEL.	_
28	N		1			1 1/32		
	SPLIT	i. Hammer fai Spoon sampl	£R				RQD=LENGTH OF SOUND CORES >4 IN./LENGTH CORED,% DEPTH=DEPTH BELOW GROUND SURFACE	
		ON LENGTH OF S		OR CORE I	BARKEL		(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)	

SS=SPLIT SPOON SAMPLE S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP.

WATER TABLE (APPROX)

l.i							· · · · ·	Fax: (617) 275-5651					
	CCT/CLIENT LINDBERG HEAT TREATING COMPANY LOCATION MELROSE PARK, IL PROJ. NO. 87024.82 BORING NO. COCATION SEE SITE PLAN DATE START/FINISH 8/6/97 / 8/6/97 WELL NO. M&A-122 COCATION COUNTY COOK FEDERAL ID. NO. IDLO05071808 COCATION COCATION COCATION MELROSE PARK, IL PROJ. NO. 87024.82 BORING NO. MACA-122 COCATION MELROSE PARK, IL PROJ. NO. 8/6/97 WELL NO. M&A-122 COCATION COUNTY COCATION MELROSE PARK, IL PROJ. NO. 8/6/97 WELL NO. M&A-122 COCATION COCATION MELROSE PARK, IL PROJ. NO. 8/6/97 WELL NO. M&A-122 COCATION COCATION MELROSE PARK, IL PROJ. NO. 8/6/97 WELL NO. M&A-122 COCATION COCATION COCATION MELROSE PARK, IL PROJ. NO. 8/6/97 WELL NO. M&A-122 COCATION COCATIO												
RING LOC				OOK	CEDE	DATE ST/		0/0/91 / 0/0/91	WELL NO. M&A-122				
E FILE N	RIVER F	OREST. IL	OUNIY <u>≃</u> SECTION	33.2b	FEDER T 40N R	ral ID. NO. <u>IDE</u> 12E DRILLING FO	DUIPMENT 4 1/4"	ID HOLLOW STEM AUGER	PG. 3 OF 3				
COUND ELI	EVATION (NO	SVD)		(CONTRACTOR	D&G DRILLING, INC	⊥ FOREMAN <u>J</u>	<u>IM</u>					
DUNDWAT	ER EL/DEP	TH		1	OGGED BY _	GGL	CHECKED BY	DJS DATE 10/6/97					
	T 1	SAMP		ore	ur vocaver		"						
DEPTH FT.	TYPE ond NO.	BLOWS PER 6 IN.	PEN In.	rec In.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIPT	IIONS ·				
! 	7 1					FINE SAND							
		15				VEINS							
30		20							· <u> </u>				
29		23											
· ;		25				NO ODOR			7				
30	SS-14	39	24	24	0.0	SHALY CLEAVAGE &	(LACUSTRINE)		Y VERY FINE				
					 	HORIZONTAL FRACTURING	SAND, SOME SILT.		-				
31		54				FINE SAND			<u> </u>				
. 31	3	19			ļ	STRATUM							
		24		1									
32	SS-15		24	22	0.0		(LACUSTRINE)	DAMP/DRY, DENSE, GRAY VER SOME SILT, TRACE COARSE SA					
: -	3	18	ļ ;					SUME SILT, TRACE CUARSE SA	uiv.				
- -	3	13											
		8							_				
- 		12							-				
34	SS-16	13	24	22	0.0	NO ODOR	(TILL)	DAMP/DRY, VERY STIFF, GRAY CLAY, LITTLE COARSE SAND, L					
-			ļ					GRAVEL, TRACE MEDIUM GRAV					
- 35		16						÷					
33		7							_				
- -		9							-				
36	SS-17	9	24	22	0.0	NO ODOR	(חנר)	SIMILAR TO SS-16					
-									-				
- 37	2	13											
ŭ.					,			BOTTOM OF BORING AT 37 FE	ET.				
· -								WELL INSTALLED AT 33 FEET.	-				
-							NOTES 1	I. AUTOMATIC HYDRAULIC HAMME	R UTILIZED FOR				
			ļ					SPLIT SPOON ADVANCEMENT.					
- 			1										
		1			,								
<u>-</u> -							+		-				
-					}				-				
	·												
_									_				
									-				
									<u>-</u>				
BLOWS PER		L HAMMER FA		O DRIVE A	2.0 IN. O.D.	· · · · · ·	RQD=LENC	STH OF SOUND CORES >4 IN./LENC	STH CORED,%				
		SPOON SAMPL ION LENGTH O		OR CORE B	ARREL			EPTH BELOW GROUND SURFACE	•				

REC=RECOVERY LENGTH OF SAMPLE SS=SPLIT SPOON SAMPLE S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.2 eV LAMP.

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Mabbett & Associates, Inc. Environmental Consultants & Engineers e Alfred Circle. Bedford. Massachusetts 01730 • (617) 275-6050 • Fax: (617) 275-5651

		(617) 273-6030 • rax(617) 273-	-Juji
MONITORING W	ELL INSTALLATIO	N DIAGRAM	M.O.A. 100
PROJEC "LIENT LINDBERG HEAT TREATING	COMPANY	_ PROJ. NO87024.82	M&A-122
CATION 1975 NORTH RUBY ROAD, MELRO	SE PARK IL.		
CONTRACTOR D&G DRILLING	DRILLER JIM		
GCED BY GGL	DATE <u>8/7/97</u>	Lo	CATION SEE SITE PLAN
JECKED BY DJS	DATE _10/6/97		
	/	ELEVATION - TOP OF CASING	632.99
		ELEVATION-TOP OF RISER PIPE	632.79
·/////////////////////////////////////		>>	
		※	
		TYPE OF SURFACE SEAL	CONCRETE
; : 			6 INCHES
			W.T. FLUSH ROAD BOX
		DEPTH-BOTTOM OF SURFACE CASING	10 INCHES
		DEPTH-BOTTOM OF SURFACE SEAL/	1 F00T
•		TOP OF BACKFILL	
l		Riser Pipe; Type	SCHEDULE 40 PVC
	- -	NOMINAL DIAMETER	2 INCHES
		——— DIAM. OF BOREHOLE	8 INCHES
		— TYPE OF BACKFILL	N/A
		THE OF BACKHEE	
,		25271 722 25 2511	1 FOOT
•		DEPTH—TOP OF SEAL TYPE OF SEAL	BENTONITE CHIPS
1		DEPTH-TOP OF FILTER PACK	22 FEET
		TYPE OF FILTER PACK DEPTH—TOP OF SCREEN	SILICA SAND 23 FEET
		SCREENED SECTION:	25 (C)
		TYPE	SCHEDULE 40 PVC
		NOMINAL DIAMETER	2 INCHES
1	=	SLOT SIZE	0.01 INCHES
		SLOT TYPE	MACHINE SLOTTED
1	=		
		DEPTH-BOTTOM OF WELL	33 FEET
		DEPTH-TOP OF SEAL, IF ANY	34 FEET
	1/////	TYPE OF SEAL	BENTONITE CHIPS
NOT TO SCALE			37 FEET
NOT TO SCALE		UCFIN-BUTTOM OF BUKEHULE	<u> </u>

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651

PROJECT/CLIENT LINDBERG HEAT TREATING COMPANY LOCATION MELROSE PARK, IL PROJ. NO. 98002.15 BORIN												
BORING LO			SEE SITE PLA				DATE STA	ART/FINISH	6/23/98 / 6/24/98	WELL NO. M&A-123		
SITT FILE				OUNTY CO			RAL ID. NO. <u>IDL</u> O	005071808				
GC RANG	GLE .	RIVER F	OREST, IL	SECTION _	33.26	T. 40N R.	12E DRILLING EC	UIPMENT 4 1/4"	ID HOLLOW STEM AUGER	PG.1 OF 2		
							D&G DRILLING, INC.					
GROUNDW	AIL	EL/DEP	SAMP			LOGGED BY _	GGL	CHECKED BA				
DEPTH FT.		TYPE and NO.	BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIPT	IONS		
- 0								,				
-									NO CANDLES A OF FEET	_		
-									NO SAMPLES 1—25 FEET			
E								1	e	-		
25	H						TRACE					
			17				HORIZONTAL & DIAGONAL			-		
-			17				FRACTURE		•	7		
26		SS-1	13	24	24	28.5	NO ODOR HIGHER SAND	(LACUSTRINE)	DRY/DAMP, HARD, GRAY SILT, SAND, LITTLE FINE TO COARSE			
<u>_</u> ,							CONTENT		CLAY, TRACE COARSE SAND.	GRAVEL, IRACE		
27			15				25-26 FEET			. –		
F 2'			9							-		
			11						•	-		
28		SS-2		24	20	29.3		(LACUSTRINE)	DRY/DAMP, VERY STIFF, GRAY	SILT, LITTLE VERY		
Ė			12						FINE SAND, LITTLE CLAY, TRAC	E COARSE SAND, -		
F.,			12						TRACE FINE TO MEDIUM GRAVE	L -		
29			16									
-					1							
30		SS-3	25	24	22	36.8	HORIZONTAL CLEAVAGE	(LACUSTRINE)	DDV/DAND NEDV DENCE ODA	- ALDA GRE CTRE -		
F **		33 \$	36	27	12	30.0	NO ODOR	(LACOSIMINE)	DRY/DAMP, VERY DENSE, GRA' SOME SILT, TRACE COARSE SA	ND, TRACE FINE		
			42						GRAVEL.			
- 31												
F			19	:		1						
32			29		00	47.5		(1.4.0110TD#15)	CIUN ID TO CC 7	-		
		SS~4	23	24	20	43.5		(LACUSTRINE)	SIMILAR TO SS-3.			
			13							_		
<u> </u>	K		10 .						·	·		
			6			· '						
-			9				LITTLE HORIZONTAL			_		
34		SS~5	12	24	24	1.6	CLEAVAGE	(LACUSTRINE)	DAMP, VERY STIFF, GRAY SILT TRACE COARSE SAND, TRACE			
-							NO ODOR		GRAVEL.	THE TO MEDIUM		
35			16							-		
F .			7									
			11									
- 36		SS-6		24	22	3.5	NO ODOR					
<u> </u>			14					(TILL)	DAMP, HARD, GRAY SILT, LITTI FINE SAND, LITTLE FINE TO MI			
- 37			18						TRACE COARSE SAND.			
P' "S PE	R 6		HAMMER FAL		DRIVE A	2.0 IN. O.D.		ROD=1 FNG	OTH OF SOUND CORES >4 IN./LENG	TH CORED.%		
1		SPUT S	ipoon sample	R				.,45 ==110	Doore done of may bell			

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PHOTO VAC 2020 PID FOLIPPED WITH 10 R av I AMP

DEPTH=DEPTH BELOW GROUND SURFACE

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Mabbett & Associates,

				Fish Alf-	d Cirola			ital Consultants (781) 275—6050 •	s & Enginee r s Fax:(781) 275–5651		
PROJECT	CHENT	LINDI	BERG HEAT T					` 	Hax: (781) 275–5651 L PROJ. NO. 98002.15	BORING NO	
BORING L		_	EE SITE PLAN						6/23/98 / 6/24/98		
SITE FILE	NO03	3118600				FEDER	RAL ID. NOIDL	.005071808	_	WELL NO. M&A-123	
C AN	GLE _R	RIVER FO	DREST, IL	SECTION :	33.2ь	T. 40N R. 1	12E DRILLING E	QUIPMENT 4 1/4"	ID HOLLOW STEM AUGER	PG. 2 OF 2	
		-						FOREMAN _		,	
GROUNDW	AILR E	L/UEPT	THSAMPI			LOGGED BY _	UOL.	CHECKED BY	ACF DATE 9/22/98		
DEPTH	Т	YPE	BLOWS	PEN	REC	HEADSPACE	REMARKS		SOIL AND ROCK DESCRIPT	PIAN	
FT.		d NO.	PER 6 IN.	IN.	IN.	PPM	NEMPINAS	SOIL NIN KOON DESCRIPTIONS			
37	N		8								
-			11				TRACE				
- 38	S s	S-7		24	24	28.2	DIAGONAL	(TILL)	DAMP, VERY STIFF, GRAY SILT,	LITTLE CLAY, —	
-			15				FRACTURE NO ODOR		LITTLE VERY FINE SAND, TRAC TRACE FINE GRAVEL.	E COARSE SAND, -	
- -			17				HO ODON				
— 39 –			16								
_			20				UODIZOLIT**			_	
40	S	S-8		24	24	31.4	HORIZONTAL FRACTURE	(LACUSTRINE)	DAMP, VERY DENSE, GRAY VER	Y FINE SAND,	
-			31				NO ODOR		LITTLE SILT, TRACE COARSE SA GRAVEL.	ND, TRACE FINE —	
_		.	33						GIVAVEL.	_	
— 41 –			14	•							
_		1									
42	$N_{\rm s}$	SS-9	21	24	24	8.5	HORIZONTAL FRACTURE	(LACUSTRINE)	SIMILAR TO SS-8 BOTTOM.		
			29	~-			NO ODOR	(5.000		-	
<u>-</u>			31	é				(LACUSTRINE)	MOJET ALE TIEDINA PENCE OF	-	
43			12					(LACOSTRINE)	MOIST/WET, MEDIUM DENSE, GF TRACE SILT, TRACE COARSE SA	AND.	
										<u>,</u>	
L 44	s	S-10	18	24	24	6.5	HORIZONTAL FRACTURE	(LACUSTRINE)	DAMP/MOIST, VERY DENSE, GR		
			27				NO ODOR	(51000774172)	SAND, LITTLE SILT, TRACE COA	RSE SAND, TRACE -	
_			32						FINE TO MEDIUM GRAVEL	_	
- 4 5			22				,		•		
-										_	
├ ├ 46		SS-11	29	24	20	6.6	HORIZONTAL FRACTURE	(LACUSTRINE)	DRY/DAMP, VERY DENSE, GRA	- YVERY FINE SAND	
L "		''	- 31			0.0	NO ODOR	(Stood Mile)	LITTLE SILT, LITTLE FINE TO MI	EDIUM GRAVEL, -	
F			33				,		TRACE COARSE SAND.		
47										_	
}			19								
L 48		S-12	- 55	15	15	2.5	,	(LACUSTRINE)	SIMILAR TO SS-11.	_	
├ "		~ 1£	100/3	13	'3	2.0		(FUCOSIKINE)	SIMILEN 10 30-11.	-	
- - 49			_ [- -	
L 49	22								BOTTOM OF BORING AT 49 FE	T	
-									WELL INSTALLED AT 47 FEET.		
								NOTES	1. AUTOMATIC HYDRAULIC HAMME	R UTILIZED FOR	
<u> </u>									SPLIT SPOON ADVANCEMENT.	-	
<u> </u>										-	
BI ANS PE	R 6" ≕	140 LR	HAMMER FALI	l Ling 30" tr	DRIVE A	2.0 IN O.D	<u> </u>	1 000 1500	TH OF SOUND CORES >4 IN A FNCT		

SPLIT SPOON SAMPLER

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PHOTO VAC 2020 PID. EQUIPPED WITH 10.6 eV LAMP.

DEPTH=DEPTH BELOW GROUND SURFACE

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Mabbett & Associates, Inc. Environmental Consultants & Engineers Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651

Tive Africa Circle, Di	edibid, Mossuchusetts 01/30 • (761) 273-6030 • Fax: (781) 27	5-5651
MONITORING WEL	L INSTALLATION	N DIAGRAM	
JECT/CLIENT LINDBERG HEAT TREATING COM			M&A-123
LOCATION 1975 NORTH RUBY STREET, MELROSE		i I	
CONTRACTOR D&G DRILLING, INC.	DRILLER DENNIS		
LOGGED BY GGL			OCATION CEE CITE DIAN
		1.0	OCATION SEE SITE PLAN
CHECKED BY _ACE	DATE _9/22/98		
		ELEVATION— TOP OF CASING	***
		ELEVATION-TOP OF RISER PIPE	632.60
	/ / Amount		
//////////////////////////////////////		×.	
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		TYPE OF SURFACE SEAL	CONCRETE
		.D. OF SURFACE CASING	6 INCHES
		•	W.T. FLUSH ROAD BOX
		EPTH-BOTTOM OF SURFACE CASING	10_INCHES
	DI DI	EPTH-BOTTOM OF SURFACE SEAL/	1 F00T
<u>.</u>		TOP OF BACKFILL	
<u>ļ.</u>			COLEDIA C 40 DVO
. <u>F</u>	EB EB1	NOMINAL DIAMETER	SCHEDULE 40 PVC 2 INCHES
			B INCHES
<u> </u>		—— DIAM. OF BOREHOLE	
Ĭ		TYPE OF BACKFILL	NATIVE MATERIAL
		DEPTH-TOP OF SEAL	8 FEET
2		TYPE OF SEAL DEPTH-TOP OF FILTER PACK	BENTONITE CHIPS 35 FEET
ļ.		TYPE OF FILTER PACK	SILICA SAND
·		DEPTH-TOP OF SCREEN	36.5 FEET
		SCREENED SECTION:	•
	<u> </u>	TYPE	SCHEDULE 40 PVC
		NOMINAL DIAMETER	2 INCHES
		SLOT SIZE	0.01 INCHES
		SLOT TYPE	MACHINE SLOTTED
		DEPTH-BOTTOM OF WELL	46.5 FEET
		DEPTH-TOP OF SEAL, IF ANY	47 FEET
		TYPE OF SEAL	BENTONITE CHIPS
NOT TO SCALE		DEPTH-BOTTOM OF BOREHOLE	49 FEET
		OLI III-DUITOM OF DUNEMULE	TO THE

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651 PROJECT/CLIENT LINDBERG HEAT TREATING COMPANY LOCATION MELROSE PARK, IL __ PROJ. NO. <u>98002.15</u> BORING NO. _ SEE SITE PLAN 6/25/98 6/25/98 BORING LOCATION _DATE_START/FINISH. WELL NO. M&A-124 SITE FILE NO. 0311860011 COUNTY COOK FEDERAL ID. NO. ____ IDL005071808 T. 40N R. 12E DRILLING EQUIPMENT 4 1/4" ID HOLLOW STEM AUGER PG.1 OF 2 Q ANGLE RIVER FOREST, IL SECTION 33.2b

GROUND ELEVATION (NGVD) CONTRACTOR D&G DRILLING, INC. FORFMAN AL

i I			-	TH.		1	CONTRACTOR L LOGGED BY _	MDH	C. FOREMAN AL. DATE 9/22/98	
				SAME	YE .					-
:	DEPTH FT.	and and	PE NO.	BLOWS PER 6 IN.	PEN In.	REC IN.	HEADSPACE PPM	REMARKS	SOIL AND ROCK DESCRIPTIONS	
F									CONCRETE	$\overline{\exists}$
F										\dashv
	- 1 - 2	- S!	S1	21 5	24	18	182		(FILL) DRY, MEDIUM DENSE, TAN SILT AND FINE SAND, LITTLE MEDIUM SAND, LITTLE FINE TO MEDIUM GRAVEL.	
	- 3			7					(LACUSTRINE) DRY, FIRM, BROWN/GRAY SILT, SOME CLAY, TRACE FINE GRAVEL.	-
	- 3		S-2	3 4	24	6	290	DIAGONAL FRACTURING	(LACUSTRINE) SIMILAR TO ABOVE.	
	- 4	7777	5-2	4 3	24		290	NO STAINING NO ODOR	(LACUSTRINE) SIMILAR TO ABOVE.	
	- 5			3						
	· 6	55	S-3	5 5	24	14	247	SUBTLE DIAGONAL FRACTURING	(LACUSTRINE) DAMP, FIRM, LIGHT-BROWN/GRAY MOTTLED SILT AND CLAY, TRACE FINE GRAVEL	
-	7			3						
	. 8	55	S-4	5	24	6	162	OIL STAINING	(LACUSTRINE) SIMILAR TO SS-3.	-
	- - -			6 7				7.3-7.4 FEET		- -
	y - -			4				NO		
	- - 10 -	S	S-5	7 10	24	20	165	Fracturing NO Odor NO Staining	(LACUSTRINE) DAMP, STIFF, LIGHT—BROWN/GRAY MOTITED SILT AND CLAY, LITTLE FINE GRAVEL.	_
	- 11			10					,	. –
	- -		•	7 12				NO ODOR		<u>-</u>
-	- 12	N SS_6 1	NO STAINING	(LACUSTRINE) DAMP, STIFF, GRAY/LIGHT-BROWN MOTTLED SILT AND CLAY, TRACE COARSE SAND.						
	- 13			10		1				
	- - 14	S	S-7	3 5	24	24	145	FEW FINE GRAVEL SEAMS	(LACUSTRINE) DAMP, STIFF, GRAY/LIGHT-BROWN MOTTLED SILT AND CLAY, LITTLE FINE GRAVEL.	

"> PER 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. SPLIT SPOON SAMPLER

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EQUIPPED WITH 10.6 eV LAMP.

RQD=LENGTH OF SOUND CORES >4 IN./LENGTH CORED,%

DEPTH=DEPTH BELOW GROUND SURFACE

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)



Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax:(781) 275-5651

PROJECT/	CLIENT _	UND	BERG HEAT	TREATING C	OMPANY	LOCATION MELROSE PARK, IL PROJ. NO. 98002.15 BORING NO.						
BORING L	OCATION	_5	SEE SITE PLA	N			DATE_ST	ART/FINISH	6/25/98 / 6/25/98	WELL NO. M&A		
SITE FILE	No. 0311	8600	<u>)11 </u>	OUNTY C	00K	FEDE	RAL ID. NOIDL	005071808	_			
Q. AN	GLE <u>RIV</u>	ER F	orest, Il	SECTION _	33.2ь	T. 40N R.	12E DRILLING E	QUIPMENT <u>4 1/4</u>	* ID HOLLOW STEM AUGER	PG. 2 OF	2	
							O&G DRILLING, INC]	
GROUNDW	ATER EL.,	/DEP				LOGGED BY _	MDH	CHECKED B	YACF DATE <u>9/22/98</u>			
DEPTH	TYF	<u>. </u>	SAMP BLOWS		DEO	HEADSPACE						
FT.	and		PER 6 IN.	Pen In.	REC IN.	PPM	REMARKS	·	SOIL AND ROCK DESCRIPT	IONS		
			. 1				,			<u> </u>		
			7								-	
			9		-				,]	
 15											-	
			4								.]	
-		_	7				NO	(1.10110TD)))E\	CHILLID TO CC 7		4	
16	SS	-8	8	24	24	109	FRACTURING	(LACUSTRINE)	SIMILAR TO SS-7.		-	
					<u> </u>]	
- 47			10								-	
— 17 –										•	ᆿ	
<u> </u>			4		İ						_	
- - 18	SS.	_0	6	24	24	78.5	NO ODOR		A 11 (D. EDIT OD 17 1 10 DO 18		-	
F 16	N 33	- 3	8	24	24	70.5	NO STAINING	(LACUSTRINE)	DAMP, FIRM, GRAY AND BROWN AND CLAY, LITTLE FINE GRAVE		\neg	
-									AND DESIGNATION OF THE CHARGE	_	-	
19			8									
}			5	ļ							-	
L	10							(LACUSTRINE)	SIMILAR TO SS-9.		-	
20	SS-	-10	<u> </u>	24	24	89.2		<u> </u>				
-			35					(LACUSTRINE)	DRY, DENSE, GRAY FINE SAND GRAVEL.	, TRACE FINE	-	
			43		1				ONTEL]	
21	22						1					
									BOTTOM OF BORING AT 21 FEI WELL M&A-124 INSTALLED AT			
-	11								TILLE MOCA-124 INSTALLED AT	10.5 TEE1.	_	
								NOTES	1. CONCRETE DRILLED WITH SOLIE) STEM ALICED		
-								140123	FINGER BIT.) SILM AUGEN		
									2 AUTOMATIC SYNDDAUSIC HANGE		_	
_								ļ	AUTOMATIC HYDRAULIC HAMME SPLIT SPOON ADVANCEMENT.	IN UNLIZED FOR	_	
-							1				_	
F											-	
Ľ				1							_	
<u> </u>											_	
- .											-	
											_	
				1							_	
-											_	
			1								_	
-											_	
											-	
BI C 'S PE			. HAMMER FAI		DRIVE A	2.0 IN. O.D.		ROD=I FI	NGTH OF SOUND CORES >4 IN./LENG	TH CORFD %		
			SPOON SAMPLI		OD CODE	DADDEI			DEPTH RELOW GROUND SURFACE	CONED,78		

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC=RECOVERY LENGTH OF SAMPLE SS=SPLIT SPOON SAMPLE S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, FOUIPPFD WITH 10.6 eV LAMP. (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Mabbett & Associates, Inc. Environmental Consultants & Engineers e Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651

Five Afred Circle, 1	Bedjord, Massachusetts 01750 +	(781) 275-0050 4 14x.(781) 275-3	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
MONITORING WE	LL INSTALLATION		
JECT/CLIENT LINDBERG HEAT TREATING CO	DMPANY	PROJ. NO. <u>98002.15</u>	M&A-124
LOCATION 1975 NORTH RUBY ROAD, MELROSE	PARK IL		
CONTRACTOR D&G DRILLING, INC.	DRILLER_AL		
LOGGED BY MOH			ATION SEE SITE PLAN
CHECKED BY ACF			
CHECKED BT AGE	UNILUNIL		
		ELEVATION— TOP OF CASING	634 49
		ELEVATION—TOP OF RISER PIPE	
		ELEVATION-TOP OF RISER PIPE	004.24
· · · · · · · · · · · · · · · · · · ·		V.	
(12/12/12/12/12/12/12/12/12/12/12/12/12/1)	
		TYPE OF SURFACE SEAL	CONCRETE
		I.D. OF SURFACE CASING	6 INCHES
		TYPE OF SURFACE CASING	W.T. FLUSH ROAD BOX
		DEPTH-BOTTOM OF SURFACE CASING	10 INCHES
		DEPTH-BOTTOM OF SURFACE SEAL/ TOP OF BACKFILL	8 INCHES
		TYPE	SCHEDULE 40 PVC
		NOMINAL DIAMETER	2 INCHES
		DIAM. OF BOREHOLE	8 INCHES
		TYPE OF BACKFILL	BENTONITE CHIPS
		, i, E or browning	
•			
	<u> 보고의 고용!</u>	05071, 700 OF 0511	8 INCHES
		DEPTH—TOP OF SEAL TYPE OF SEAL	BENTONITE CHIPS
		DEPTH—TOP OF FILTER PACK	· 4 FEET
	17 17 17 17 17 17 17 17 17 17 17 17 17 1	TYPE OF FILTER PACK DEPTH-TOP OF SCREEN	SILICA SAND 5.5 FEET
		SCREENED SECTION:	
		TYPE	SCHEDULE 40 PVC
•		NOMINAL DIAMETER	2 INCHES
		SLOT SIZE	0.01 INCHES
		SLOT TYPE	MACHINE SLOTTED
			-
		Depth—Bottom of Well	15.5 FEET
	The second secon	•	16.5 FEET
		DEPTH—TOP OF SEAL, IF ANY TYPE OF SEAL	BENTONITE CHIPS
NOT TO CO!! T			
NOT TO SCALE	//////////	DEPTH-BOTTOM OF BOREHOLE	21 FEET

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651

PROJECT /	CLIENT	LIND	BERG HEAT 1	TREATING C	OMPANY							
BORING LO		_	SEE SITE PLAI				DATE START/FINISH 6/24/98 / 6/25/98					
SIT FILE	NU VI	'''		OUNTY CO	00K	FFDEI	RAL ID. NOIDLO		1 - 1 1 1	WELL NO. M&A-125		
O ANI	31F	RIVER F	OREST, IL	SECTION S	33.2b	10N R	12E DRILLING FO	DIPMENT 4 1/4"	ID HOLLOW STEM AUGER	PG. 1 OF 3		
GROUND E	ELEVAT	10N (NO	(OV)	OLO HOIT		CONTRACTOR [O&G DRILLING, INC.	FOREMAN _D	ENNIS			
									ACF DATE _9/22/98			
			SAMP	LE								
DEPTH FT.		TYPE of NO.	BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIP	TIONS		
_ 0									COCNCRETE	_		
- - - - - - 8									NO SAMPLES 1 TO 8 FEET.			
- - - - - 9		SS-1	1	24	18	878.0	TRACE DIAGONAL	(LACUSTRINE)	Damp/moist, stiff, olive sil	T. SOME CLAY. —		
- - - 10		'	7 10				FRACTURE EARTHY ODOR	(=:===:::::-,	LITTLE FINE TO MEDIUM GRAVE SAND.	EL, TRACE COARSE -		
- - - - 11		SS-2	4 7 9	24	24	1,385.0	EARTHY ODOR	(LACUSTRINE)	DAMP, VERY STIFF, GRAY/OUN CLAY, TRACE COARSE SAND, GRAVEL.			
12 13 13 14		SS3	13 3 6 8 9	24	24	>2000	1/4" THICK WET DIAGONAL FRACTURE AT 13" FINE SAND IN FRACTURES EARTHY ODOR	(LACUSTRINE)	DAMP, VERY STIFF, GRAY SILT TRACE COARSE SAND, TRACE	T, SOME CLAY, FINE GRAVEL. -		
- -									NO SAMPLES 14 TO 25 FEET.	- - -		
25 - - - - 26		SS-4	13 19 21 18	24	24	82.7	LITTLE HORIZONTAL FRACTURING NO ODOR	(LACUSTRINE)	DAMP/DRY, HARD, GRAY SILT SAND, TRACE COARSE SAND, GRAVEL.			
- 27 - 28 - 28 - 29		SS-5	10 11 14 18	24	22	78.1	SOME HORIZONTAL & DIAGONAL FRACTURING NO ODOR	(LACUSTRINE)	DRY, HARD, GRAY SILT, LITTL LITTLE FINE GRAVEL, TRACE (E VERY FINE SAND, — COARSE SAND.		
30		SS-6	9 21	24	24	81.9	HORIZONTAL FRACTURING	(LACUSTRINE)	DRY, DENSE, GRAY VERY FINI TRACE COARSE SAND, TRACE			
	<u> </u>			1			113107010110	500 1511	THE OF COURS ACCESS	OTL CODED W		
1 1 1	"S PER 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. SPLIT SPOON SAMPLER DEPTH-DEPTH-BELOW CROLING SLIPEACE											

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC=RECOVERY LENGTH OF SAMPLE SS=SPLIT SPOON SAMPLE S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PHOTO VAC 2020 PID. EQUIPPED WITH 10.6 eV LAMP.

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651

PROJECT,	/CLIENT	INDBERG HEAT		OMPANY		LOCATION MELROSE PARK, IL PROJ. NO. 98002.15					
BORING L		SEE SITE PLA		1001	····	DATE STA		6/24/98 / 6/25/98	WELL NO. M&A	-125	
SITE FILE	NO. USTIC	60011 (COUNTY L	. <u>00k</u> .33.2b	FEDEI т 40N - р	RAL ID. NO. 10L0	005071808 DIDMENT 4 1/4"	ID HOLLOW STEM AUGER	PG. 2 OF	3	
GROUND	ELEVATION	(NGVD)	_ SECTION .		CONTRACTOR	D&G DRILLING, INC.	FOREMAN D	ENNIS	, 0, 2		
GROUNDY	VATER EL/I	DEPTH	- 11 - 11 -		LOGGED BY _	GGL	_ CHECKED BY	ACF DATE 9/22/98			
		SAM	PLE	Υ							
DEPTH FT,	TYPE and N		PEN IN.	REC IN.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIPT	ions		
_ 30	13	28				NO ODOR	 		<u></u>		
<u>-</u>		37								1	
— 31 –		00								亅	
-		20								-	
32	ss-		24	24	73.3	NO ODOR	(LACUSTRINE)	SIMILAR TO SS-6 BOTTOM.		4	
-		31							•	_	
33		33									
- 33		13								4	
		12				NO ODOR				-]	
34	SS-	8 13	24	24	72.9	VERY DIFFICULT	(LACUSTRINE)	DRY, HARD, GRAY SILT, LITTLE LITTLE FINE TO MEDIUM GRAVE			
_		16				DRILLING		TRACE COARSE SAND.	- , ,	-	
35										_	
F		4	:							\exists	
36	SS-	9 8	24	22	106.0	NO ODOR	(LACUSTRINE)	DAMP, VERY STIFF, GRAY SILT	. LITTLE FINE	-	
		9 .					,,	SAND, LITTLE FINE TO MEDIUM CLAY, TRACE COARSE SAND.		_	
		11				ŀ		CLAT, INACL COARSE SARD.		4	
- 37		6	ļ								
-		9								_	
38	SS-	10	24	22	39.1	NO ODOR	(LACUSTRINE)	DAMP, VERY STIFF, GRAY SILT LITTLE FINE TO MEDIUM GRAVE	L, TRACE VERY	_	
L		14						FINE SAND, TRACE COARSE SA	AND.	_	
- 39		6									
F					-	1" FINE SAND				_	
- 40	SS-	11 10	24	24	98.8	VEIN AT 40.75' TRACE	(LACUSTRINE)	DAMP, HARD, GRAY SILT, LITT			
Ļ		13				DIAGONAL FRACTURING		VERY FINE SAND, TRACE COAL FINE GRAVEL.	RSE SAND, TRAC	E -	
41		20				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		1714 17117	*		
- "		7								_	
		9	.			TRACE HORIZONTAL					
42	SS-	12 22	24	24	166.0	FRACTURING NO ODOR	(LACUSTRINE)	DAMP, DENSE, GRAY VERY FIN	JE SAND SOME		
		24				NO ODOK	(Broosman)	SILT, TRACE COARSE SAND	IL GIOID, SOME		
_ 43											
F		13			4.55						
44	SS-		24	24	143.0						
B1	SP	LB. HAMMER FA LIT SPOON SAMP	LER					OTH OF SOUND CORES >4 IN./LENG	TH CORED,%		

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PHOTO VAC 2020 PID. EOUIPPED WITH 10.6 eV LAMP.

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

¥ WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax:(781) 275-5651

PROJECT,	/CLIE	NT <u>UND</u>	BERG HEAT	TREATING C	OMPANY		LOCATION	MELROSE PARK,	IL PROJ. NO. 98002.15	BORING NO.
BORING L		110H —	SEE SITE PLA		·····		DATE ST	ART/FINISH	6/24/98 / 6/25/98	WELL NO. M&A-125
		03118600		C YTMUO:		FEDEJ	RAL ID. NO. <u>IDL</u>	005071808	_	
Qu KAN	IGLE	KIVER F	OREST, IL	SECTION .	33.2b	T. 40N R.	12E DRILLING EG	QUIPMENT <u>4 1/4</u>	" ID HOLLOW STEM AUGER	PG. 3 OF 3
			•			LOGGED BY	D&G DRILLING, INC		/ ACF DATE 9/22/98	
GROUNDI	MICI	V ELL/DEF	SAMP			LUGGED B1	OOL	CHECKED BI	1 NO! DATE	.]
DEPTH FT.		TYPE and NO.	BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIP	TIONS
44			20 20				HORIZONTAL FRACTURING	(LACUSTRINE)	DAMP, HARD, GRAY SILT, SOM LITTLE FINE TO MEDIUM GRAVE	
— 4 5			16				NO ODOR -		SAND, TRACE CLAY.	
_			19							
— 46		SS-14		24	22	92.7				
			33 31					(TILL)	DRY, HARD, GRAY VERY FINE LITTLE FINE TO MEDIUM GRAVE SAND, TRACE CLAY.	
- *			22							_
			25				HORIZONTAL		•	_
48		SS-15	52	24	24	69.6	FRACTURING NO ODOR	(TILL)	SIMILAR TO SS-14 BOTTOM.	
F			54							
49			:						BOTTOM OF BORING AT 49 FE WELL INSTALLED AT 49 FEET.	ET. –
				·					HELE INSTALLED AT 49 FEET.	-
								NOTES	1. CONCRETE DRILLED WITH SOLI FINGER BIT.	O STEM AUGER
			·						2. AUTOMATIC HYDRAULIC HAMMI SPLIT SPOON ADVANCEMENT.	er utilized for — —
<u></u>										
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<u> </u>						1.				-
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E	}	1								-
F										-
b. 2 b	ER 6	* =140 LB	. HAMMER FAL	LLING 30" T	O DRIVE A	2.0 IN. O.D.		BOD_LEV	INTE OF COURT COOPE SA IN A CIV	THE CADEN &
1			SPOON SAMPL					run=rry	IGTH OF SOUND CORES >4 IN./LENC	THE CURED, &

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PHOTO VAC 2020 PID. FOLIPPED WITH 10.6 eV LAMP. DEPTH=DEPTH BELOW GROUND SURFACE

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651

MONITORING WELL IN	VSTALLATI(ON DIAGRAM	· · · · · · · · · · · · · · · · · · ·
JECT/CLIENT LINDBERG HEAT TREATING COMPANY		PROJ. NO. <u>98002.15</u>	M&A-125
LOCATION _1975 NORTH RUBY STREET, MELROSE PARK II	L.,		
CONTRACTOR D&G DRILLING, INC.	DRILLER DENNIS		
LOGGED BY GGL	DATE <u>6/25/98</u>		LOCATION SEE SITE PLAN
CHECKED BY ACE	DATE _9/22/98		
		ELEVATION- TOP OF CASING	634.47
	/	ELEVATION—TOP OF RISER PI	PE <u>634.03</u>
/			
		TYPE OF SURFACE SEAL	CONCRETE
			6 INCHES
		TYPE OF SURFACE CASING	
		THE OF SOM MOD ONSHO	
		— DEPTH-BOTTOM OF SURFACE CASING	10 INCHES
		DEPTH-BOTTOM OF SURFACE SEAL/	1 F00T
[53		TOP OF BACKFILL	
1==		RISER PIPE: TYPE	SCHEDULE 40 PVC
∮ Ξ Ξ	<u> </u>	NOMINAL DIAMETER	2 INCHES
[25]		———— DIAM, OF BOREHOLE	8 INCHES
172		TYPE OF BACKFILL	N/A
1 = 1			
[FEE			
[HEE]		DEPTH-TOP OF SEAL	1.5 FEET
		TYPE OF SEAL	BENTONITE CHIPS
	<u> </u>	DEPTH-TOP OF FILTER PACK	K <u>36 FEET</u> SILICA SAND
	1	TYPE OF FILTER PACK DEPTH-TOP OF SCREEN	39 FEET
		SCREENED SECTION:	
In the second se		TYPE	SCHEDULE 40 PVC
		NOMINAL DIAMETER	2 INCHES
Les estates and the second sec		SLOT SIZE	0.01 INCHES
PER PER PER PER PER PER PER PER PER PER		SLOT TYPE	MACHINE SLOTTED
The second secon			
The production of the producti		DEPTH-BOTTOM OF WELL	49 FEET
		DEPTH-TOP OF SEAL, IF A	
		TYPE OF SEAL	NONE
NOT TO SCALE		DEDTH DATEM OF TOPES	our 40 FFFT

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fox: (781) 275-5651

PROJECT/CLI	ent <u>line</u>	BERG HEAT T	TREATING C					IL PROJ. NO. 98002.15	BORING NO.
BORING LOCA	\	SEE SITE PLAI				DATE_STA	RT/FINISH	6/22/98 / 6/23/98	WELL NO. M&A-126
SIT TILE NO	0311860	<u>)11 </u>	OUNTY O	OOK	FEDEI	RAL ID. NO. <u>IDL</u> O	005071808	_	PG.1 OF 3
QL. KANGLE	VATION (NO	OKESI, IL	SECTION .	33.2D	CONTRACTOR I	<u>17E </u>	OULPMENT 4 1/4	'ID HOLLOW STEM AUGER DENNIS	10.1013
GROUND ELL	RELIDER	лн тн			LOGGED RY	GGL	CHECKED BY	ACFDATE9/22/98	
ONOGIVE	av LL/DLI	SAMP			EGGOED D1		OILONED DI		1
DEPTH FT.	TYPE ond NO.	Blows Per 6 in.	PEN IN.	REC IN	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIP	NONS
								CONCRETE	-
- 1 - 1 -		20							-
2	SS-1	13 8	24	10	29.2		(FILL)	DRY, MEDIUM DENSE, BLACK CIT FINE TO MEDIUM SAND, TRACE	NDER/ASH, UTTLE —
3		8	, ,						-
4	SS-2	5	24	18	35.2	HORIZONTAL AND DIAGONAL FRACTURING TAN MOTTLING	(뒤止)	DAMP, STIFF, GRAY SILT, LITTI FINE GRAVEL	LE CLAY, TRACE
5 6	SS-3	2 2 3	24	16	38.9	TAN MOTTLING PETROLEUM ODOR 6.5'-7.5' GRAY/BLACK	(LACUSTRINE)	MOIST/WET, FIRM, GRAY SILT COARSE SAND, TRACE FINE G	
8	SS-4	2 6 10 10	24	20	38.9	EARTHY ODOR GRADES DOWNWARD TO GRAY	(LACUSTRINE)	DAMP, VERY STIFF, BROWN SI TRACE COARSE SAND, TRACE GRAVEL.	
- - - 10 - - - 11	SS-5	5 7 8 9	24	22	31.5	EARTHY ODOR	(LACUSTRINE)	DAMP, VERY STIFF, GRAY SIL LITTLE COARSE SAND, TRACE GRAVEL.	T, SOME CLAY, — FINE TO MEDIUM —
12	SS-6	3 4 6 7	24	20	25.8	EARTHY ODOR	(LACUSTRINE)	DAMP, STIFF, GRAY SILT, SOI COARSE SAND, TRACE FINE (
- 13 - - - 14	SS-7	WOR 5	24	24	33.7	WOR=WEIGHT OF ROD NO ODOR	(LACUSTRINE)	MOIST, STIFF, GRAY SILT AND COARSE SAND, TRACE FINE (
F' 3 PER	SPLIT	B. HAMMER FA SPOON SAMPL TION LENGTH O	LER					IGTH OF SOUND CORES >4 IN./LEN DEPTH BELOW GROUND SURFACE	GTH CORED,%

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PHOTO VAC 2020 PID. EQUIPPED WITH 10.6 eV LAMP.

S=SAMPLE TAKEN OFF AUGER

WATER TABLE (APPROX)

CHANGE IN MATERIAL TYPE (DASHED WHERE INFERRED) CHANGE IN DEPOSIT TYPE (DASHED WHERE INFERRED)

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651

Depth	PROJECT/	CLIENT	LIND	BERG HEAT T	REATING CO	DMPANY		LOCATION		PROJ. NO. 98002.15	BORING NO
Commonweight Comm	BORING L	OCATIO	¥			· 		DATE STA		/22/98 / 6/23/98	WELL NO. M&A-126
CONTROL CIVATION (NG/O)	SIT TILE	NO. 0	3118600	011 CO	OUNTY CO)OK	FEDER	RAL ID. NOIDLO	005071808	ID HALLAW STEW ALICED	PG 2 OF 3
SCOUNDWARE EL_PUPPN	QUKAN	GLE!	RIVER FO	JRESI, IL	SECTION >	55.2b	T, 40N R.	<u>12E</u> DRILLING EQ D&G DRILLING INC	UIPMENT 4 1/4	ENNIS	1 0. 2 01 0
SAMP PER 6 N								GGI	CUECVED BY	ACF DATE 9/22/98	
PET THE THE BLANKS PEN P	GROUNDW	MIER	:L/DEP				EUGGED B!	OOL	CHECKED BT	DATE	<u></u>
15		an	TYPE id NO.	BLOWS	PEN	REC IN.		REMARKS	<u> </u>	SOIL AND ROCK DESCRIPT	IONS
15				6							-
15 9 24 22 22.4 NO ODOR (LACUSTRINE) MOIST, VERY STIFF, GRAY SLT, SOME CLAY, ITTILE FINE GRAYEL, IRACE COARSE SAND.	-			·							-
16	15			0	1					•	_
16 SS-8 10 24 22 22.4 NO ODOR (LACUSTRINE) MOST, VERY SILT, SOME CLAY, LITTLE FINE GRAY'S SILT, SOME CLAY, LITTLE FINE GRAY'EL, TRACE COARSE SAND. — 17 3 4 24 22 36.4 NO ODOR BROWN MOTUNG 18 SS-9 6 24 24 22 36.4 NO ODOR CLACUSTRINE) DAMP, SIFF, GRAY SILT, SOME CLAY, TRACE COARSE SAND, TRACE FINE TO MEDIUM GRAVEL — 20 SS-10 12 24 24 34.0 NO ODOR (LACUSTRINE) DAMP, SIFF, GRAY'BROWN SILT, SOME CLAY, TRACE COARSE SAND, TRACE FINE TO MEDIUM GRAVEL — 21 13 CLACUSTRINE) DAMP, HARD, DARK GRAY SILT, LITTLE CLAY, TRACE COARSE SAND, TRACE FINE GRAVEL — 22 SS-11 30 24 24 266.0 NO ODOR (LACUSTRINE) DRY/DAMP, HARD, DARK GRAY VERY FINE SAND, SOME SILT, TRACE COARSE SAND. 23 SS-12 34 24 24 120.0 NO ODOR (LACUSTRINE) SIMILAR TO SS-11. 26 SS-13 18 18 15 15 18 18 158.0 NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY VERY FINE SAND, TRACE FINE TO MEDIUM GRAVEL — 27 TABLE COARSE SAND. TRACE FINE TO MEDIUM GRAVEL — 10 LACUSTRINE) DRAP, HARD, DARK GRAY VERY FINE SAND, SOME SILT, TRACE COARSE SAND. 11 SS-12 34 24 25 340.0 NO ODOR (LACUSTRINE) DRAY, DARK GRAY VERY FINE SAND, TRACE FINE TO MEDIUM GRAVEL — 28 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 29 CLACUSTRINE) DRAP, HARD, DARK GRAY VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 20 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 20 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) WEI, DERSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. 21 TRACE COARSE SAND, TR	- "			9							-
16 SS-8 10 24 22 22.4 NO ODOR (LACUSTRINE) MOST, VERY SILT, SOME CLAY, LITTLE FINE GRAY'S SILT, SOME CLAY, LITTLE FINE GRAY'EL, TRACE COARSE SAND. — 17 3 4 24 22 36.4 NO ODOR BROWN MOTUNG 18 SS-9 6 24 24 22 36.4 NO ODOR CLACUSTRINE) DAMP, SIFF, GRAY SILT, SOME CLAY, TRACE COARSE SAND, TRACE FINE TO MEDIUM GRAVEL — 20 SS-10 12 24 24 34.0 NO ODOR (LACUSTRINE) DAMP, SIFF, GRAY'BROWN SILT, SOME CLAY, TRACE COARSE SAND, TRACE FINE TO MEDIUM GRAVEL — 21 13 CLACUSTRINE) DAMP, HARD, DARK GRAY SILT, LITTLE CLAY, TRACE COARSE SAND, TRACE FINE GRAVEL — 22 SS-11 30 24 24 266.0 NO ODOR (LACUSTRINE) DRY/DAMP, HARD, DARK GRAY VERY FINE SAND, SOME SILT, TRACE COARSE SAND. 23 SS-12 34 24 24 120.0 NO ODOR (LACUSTRINE) SIMILAR TO SS-11. 26 SS-13 18 18 15 15 18 18 158.0 NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY VERY FINE SAND, TRACE FINE TO MEDIUM GRAVEL — 27 TABLE COARSE SAND. TRACE FINE TO MEDIUM GRAVEL — 10 LACUSTRINE) DRAP, HARD, DARK GRAY VERY FINE SAND, SOME SILT, TRACE COARSE SAND. 11 SS-12 34 24 25 340.0 NO ODOR (LACUSTRINE) DRAY, DARK GRAY VERY FINE SAND, TRACE FINE TO MEDIUM GRAVEL — 28 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 29 CLACUSTRINE) DRAP, HARD, DARK GRAY VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 20 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 20 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) WEI, DERSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. 21 TRACE COARSE SAND, TR				9						•]
17 18 SS-9 6 24 22 36.4 NO ODOR BROWN MOTILING LACUSTRINE) DAMP, SIHF, GRAY SILT, SOME CLAY, TRACE COARSE SAND, TRACE FINE TO MEDIUM GRAVEL	<u> </u>		SS-8		24	22	22.4	NO ODOR	(LACUSTRINE)		
17				10						LITTLE FINE GRAVEL, MAGE OF	JANGE SAND.
18	<u> </u>			12							-
18	17			7							_
18	-								•	· .	
19	18		9-22	4	24	22	36.4		(LACUSTRINE)	DAMP, STIFF, GRAY SILT, SOME	E CLAY, TRACE —
19 2	- '°		J J J	6			00.1		(2.000)		
19 2				ا م	-					•	/
2	- 19							·	(LACUSTRINE)	DAMP STIFF CRAY/RROWN SI	T SOME CLAY.
20	-								(2.1000 //	TRACÉ COARSE SAND, TRACE	FINE TO MEDIUM
24	20		SS-10	,	24	24	341.0	NO ODOR	(LACUSTRINE)		
HORIZONTAL CLEAVAGE SS-11 13 24 24 266.0 NO ODOR CLACUSTRINE DRY/DAMP, HARD, DARK GRAY VERY FINE SAND, SOME SILT, TRACE COARSE SAND. SOME SILT, SOME SAND, TRACE SILT, TRACE COARSE SAND. SOME SILT, SOME SILT, SOME SAND, TRACE SILT, TRACE COARSE SAND. SOME SILT, SOME SAND, TRACE SILT, TRACE COARSE SAND. SOME SILT, SOME SAND, TRACE SILT, TRACE COARSE SAND. SOME SILT, SOME SAND, TRACE SILT, TRACE COARSE SAND. SOME SILT, SOME SAND, TRACE SILT, TRACE COARSE SAND. SOME SILT, SOME SAND, TRACE SILT, TRACE COARSE SAND. SOME SILT, SOME SAND, TRACE SILT, TRACE COARSE SAND. SOME SILT, SOME SAND, TRACE SILT, TRACE COARSE SAND. SOME SILT, SOME SAND, TRACE SILT, TRACE COARSE SAND. SOME SILT, SOME SA	-			12						TRACE COARSE SAND, TRACE	FINE GRAVEL
HORIZONTAL CLEAVAGE LITTLE SILT. CLEAVAGE CLACUSTRINE DRY/DAMP, HARD, DARK GRAY VERY FINE SAND, SOME SILT, TRACE COARSE SAND. CLACUSTRINE SIMILAR TO SS—11. CLACUSTRINE SIMILAR TO SS—11. CLACUSTRINE SIMILAR TO SS—11. CLACUSTRINE SIMILAR TO SS—11. CLACUSTRINE SIMILAR TO SS—11. CLACUSTRINE SIMILAR TO SS—11. CLACUSTRINE CLACUSTRINE DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. CLACUSTRINE CLACUSTRINE DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. CLACUSTRINE	F			24					(LACHSTRINE)	משע להגעום נוגמה לפגע VED	FINE SAND
22	21							,,-,	(Bloosinine)		TIME SAIND,
22	F			13				CLEAVAGE			_
30 SOMÉ SILT, TRACÉ COARSE SAND. 23 SS-12 34 24 24 120.0 NO ODOR (LACUSTRINE) SIMILAR TO SS-11. 25 SS-13 21 24 22 340.0 HORIZONTAL AND VERTICAL FRACTURE NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 27 SPER 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. 0.0. ROD=I FINGTH OF SOLIND CORES \$\frac{1}{2}\$ M. ALENGTH CORED.**	+ ,,		CC_11	23	24	24	266.0	NO ODOB	(LACUSTRINE)	UBA \UYND HYBU UYBK CBY	– Y VERY FINE SAND —
23			33-11	30	24	27	200.0	NO ODOK	(Endoomine)		
24 SS-12 34 24 120.0 NO ODOR (LACUSTRINE) SIMILAR TO SS-11. 25 SS-13 18 24 22 340.0 HORIZONTAL AND VERTICAL FRACTURE NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 15 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. 16 S PER 6" = 140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. 0.0.	-										
24 SS-12 34 24 120.0 NO ODOR (LACUSTRINE) SIMILAR TO SS-11. 25 SS-13 21 24 22 340.0 HORIZONTAL AND VERTICAL FRACTURE NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 15 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. 16 3 PER 6" = 140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. 17 ROD=LENGTH OF SOUND CORES >4 IN A FINGTH CORED.%	23	4		34			į				_
24 SS-12 59 24 24 120.0 NO ODOR (LACUSTRINE) SIMILAR TO SS-11. 25 26 27 28 SS-13 24 22 340.0 HORIZONTAL AND VERTICAL FRACTURE NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. (LACUSTRINE) DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. (LACUSTRINE) DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND.	: }-			24						•	_
59 26 - 25 - 18 - 26 - SS-13 - 18 - 26 - SS-13 - 18 - 27 - 17 - 28 - SS-14 - 15 - 24 - 18 - 158.0 - NO ODOR - (LACUSTRINE) - MET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. - (LACUSTRINE) - WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. - ROD= FINGTH OF SOUND CORES >4 IN // ENGTH CORED %	. =			34							-
26 25 18 21 26 SS-13 18 21 24 22 340.0 HORIZONTAL AND VERTICAL FRACTURE NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SH.T, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 15 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. FOR SILT, TRACE COARSE SAND. ROD=LENGTH DE SOUND CORES >4 IN ALENGTH CORED.%	24		SS-12	Fn .	24	24	120.0	NO ODOR	(LACUSTRINE)	SIMILAR TO SS-11.	
18 21 24 22 340.0 HORIZONTAL AND VERTICAL FRACTURE NO ODOR 15 15 17 28 SS-14 15 24 18 158.0 HORIZONTAL AND VERTICAL FRACTURE NO ODOR (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. ROD=LENGTH OF SOUND CORES >4 IN A FINGTH CORED.%	· [Ja]		-
18 21 24 22 340.0 HORIZONTAL AND VERTICAL FRACTURE NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SH.T, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 15 17 28 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. ROD=LENGTH OF SOUND CORES >4 IN ALENGTH CORED.%	nc			26							·
SS-13 21 24 22 340.0 HORIZONTAL AND VERTICAL FRACTURE NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SH.T, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 15 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. FOR 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. ROD=LENGTH OF SOUND CORES >4 IN. /LENGTH CORED.%	25			18							-
AND VERTICAL FRACTURE NO ODOR SS-13 18 18 15 17 SS-14 15 24 22 340.0 AND VERTICAL FRACTURE NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SILT, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. FOR 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. 0.0. ROD=LENGTH OF SOUND CORES >4 IN. /LENGTH CORED.%	- .							HORIZONTAL			
18 FRACTURE NO ODOR (LACUSTRINE) DAMP, HARD, DARK GRAY SH.T, SOME VERY FINE SAND, TRACE CLAY, TRACE COARSE SAND. 15 17 17 18 158.0 NO ODOR (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. E' 3 PER 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. ROD=LENGTH OF SOUND CORES >4 IN. /LENGTH CORED.%	26		SS13	21	24	22	340.0	AND VERTICAL			
SAND, TRACE CLAY, TRACE COARSE SAND. 15 17 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. 800=LENGTH OF SOUND CORES >4 IN /LENGTH CORED.%				18					(LACUSTRINE)	DAMP, HARD, DARK GRAY SH	T, SOME VERY FINE
27 SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. FOR 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. 0.0. ROD=LENGTH OF SOUND CORES >4 IN. /LENGTH CORED.%				15				, TO ODON			
SS-14 15 24 18 158.0 NO ODOR (LACUSTRINE) WET, DENSE, GRAY FINE SAND, TRACE SILT, TRACE COARSE SAND. 8' PER 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. 0.0. 8' PER 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. 0.0.	27	R		,,,	1						
28 TRACE COARSE SAND. E" 7 PER 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. 0.0. ROD=LENGTH OF SOUND CORES >4 IN. /LENGTH CORED.%	-			17					TI A CHOTHINE	שבד מכווכר ממגע מוויר מגנוי	TRACE OUT
E" "3 PER 6" =140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. ROD=LENGTH OF SOUND CORES >4 IN. /LENGTH CORED.%	- 2R		SS-14	15	24	18	158.0	NO ODOR	(LACOSTRINE)		D, TRAUC SILI,
		PER 6"				O DRIVE A	2.0 IN. O.D.		RQD=LENC	OTH OF SOUND CORES >4 IN./LENG	STH CORED,%

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PHOTO VAC 2020 PID FOUIPPED WITH 10 6 AV JAMP DEPTH=DEPTH BELOW GROUND SURFACE

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651

PROJECT,	/CLIEN	NT LIND	BERG HEAT 1	REATING C	OMPANY		LOCATION	MELROSE PARK,	IL PROJ. NO. 98002.15	BORING NO.
BORING L	OCAT	10th —	SEE SITE PLAI				DATE_STA	ART/FINISH	6/22/98 / 6/23/98	WELL NO. M&A-126
SITE FILE	NO	03118600	<u>)11 </u>	OUNTY _CO	DOK	FEDEF	RAL ID. NO. <u>IDL</u> I	005071808	- TO HOLLOW CTERS ALSOED	PG. 3. 0F 3
C. RAN	GLE .	RIVER F	OREST, IL	SECTION 2	33.2b	T. 40N R.	<u>12E</u> DRILLING EC	OUIPMENT 4 1/4	* ID HOLLOW STEM AUGER	PG. J. UF J
)&G DRILLING, INC		/ <u>ACF</u> DATE <u>9/22/98</u>	
GROUNDY	AIER	EL./DEP	SAMP			TOPPED BI =	GGL	CHECKED BY		
DEPTH FT.		TYPE and NO.	BLOWS PER 6 IN.	PEN In.	REC IN.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIP	nons
	N		19							,]
_			ļ							7
- 29			17					(LACUSTRINE)	DAMP, HARD, GRAY SILT, SOM	
- 23			10						LITTLE CLAY, LITTLE FINE GRA	/tL
			14				:			
30		SS-15		24	24	95.5	NO ODOR	(LACUSTRINE)	DAMP, VERY STIFF, DARK GRA	
E			17						FINE SAND, TRACE CLAY, TRACE TRACE FINE GRAVEL.	CE COARSE SAND,
ļ-			22							
31							1/4" CLAY			=
 -			-]		LAYER AY			4
32		SS16	6	24	20	83.2	31.6' NO ODOR	(OUTWASH)	WET, MEDIUM DENSE, GRAY W	
- 32		33-10	9	27	20	65.2	NO ODOR	(OOTHINGH)	SAND, TRACE SILT, TRACE FIN	E TO MEDIUM -
-			1 44		·				GRAVEL.	
			14		1					. –
			8		,					
F.			15							
34		SS-17		24	20	44.9	NO ODOR	(OUTWASH)	SIMILAR TO SS-16.	
F			17				1			
<u> </u>			19	·	1			(LACUSTRINE)	DAMP, HARD, GRAY SILT, SON VERY FINE SAND.	E CLAY, LITTLE _
35			11		-			(OUTWASH)	SIMILAR TO SS-16.	
F										
<u></u> 36		SS-18	13	24	22	54.4	NO ODOR	(TILL)	MOIST, HARD, GRAY SILT, SON	ME CLAY, LITTLE —
-			24						FINE SAND, LITTLE FINE TO M TRACE COARSE SAND.	EDIUM GRAVEL -
F			25						INACE COARSE SAMD.	_
37									DOTTOU OF DODING AT 77 FT	
		-						Ì	BOTTOM OF BORING AT 37 FT WELL INSTALLED AT 35 FEET.	:E1
-									HELL MOTALLE III GO TELI	_
		:						NOTES	1. CONCRETE DRILLED WITH SOLL FINGER BIT.	D STEM AUGER -
-	1		1							
_									AUTOMATIC HYDRAULIC HAMM SPLIT SPOON ADVANCEMENT.	בת טוובוצבט דטול —
-										-
-									÷	-
-										<u></u>
										-
-										-
P' 'S F	ER 6		I. HAMMER FAL SPOON SAMPLI		O DRIVE A	2.0 IN. O.D.		RQD=LE)	IGTH OF SOUND CORES >4 IN./LEN	GTH CORED,%

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PID, EOUIPPED WITH 10.2 eV LAMP.

DEPTH=DEPTH BELOW GROUND SURFACE (GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

¥ WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax:(781) 275-5651

MONITORING WELL IN	ISTALLATIOI	√ DIAGRAM	
ECT/CLIENT LINDBERG HEAT TREATING COMPANY		PROJ. NO. <u>98002.15</u>	M&A-126
LOCATION _1975 NORTH RUBY STREET, MELROSE PARK IL.			
CONTRACTOR D&G DRILLING, INC.	DRILLER _DENNIS		
LOGGED BY GGL	DATE <u>6/22/98</u>		LOCATION SEE SITE PLAN
CHECKED BY ACF	DATE 9/22/98		
	<i></i>	ELEVATION— TOP OF CASING	634.45
	/	ELEVATION—TOP OF RISER PI	PE634.08
		>>	
		TYPE OF SURFACE SEAL	CONCRETE
		1.D. OF SURFACE CASING	6 INCHES
		TYPE OF SURFACE CASING	W.T. FLUSH ROAD BOX
		DEDTI DOTTOU OF CUREING ALCUM	; 10 INCHES
		DEPTH-BOTTOM OF SURFACE CASING	
		DEPTH-BOTTOM OF SURFACE SEAL/ TOP OF BACKFILL	1 FOOT
[EE]		RISER PIPE:	
<u> </u>		TYPE	SCHEDULE 40 PVC
[NOMINAL DIAMETER	2 INCHES
[三日]		DIAM. OF BOREHOLE	8 INCHES
		TYPE OF BACKFILL	NATIVE MATERIAL
1 三三			
[55]			
7 <u>- </u>	- - - - - - - - - - - - -	DEPTH—TOP OF SEAL	3 FEET
[<i>''//</i> 2		Type of Seal Depth—top of filter pac	BENTONITE CHIPS 29.4 FEET
(inter-		TYPE OF FILTER PACK	SILICA SAND
Name of the state	— (3.333)	DEPTH—TOP OF SCREEN	30 FEET
		SCREENED SECTION:	00/170/1/5 40 01/0
(100000)		TYPE	SCHEDULE 40 PVC
		NOMINAL DIAMETER	2 INCHES 0.01 INCHES
[1000000]		SLOT SIZE	
		SLOT TYPE	MACHINE SLOTTED
		DEPTH-BOTTOM OF WELL	35 FEET
Militaria Portagon		DEPTH—TOP OF SEAL, IF AI	NYN/A
		TYPE OF SEAL	NONE
NOT TO SCALE		DEPTH-BOTTOM OF BOREHO	OLE 37 FEET

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651

PROJECT	/CLIEN	LIND	BERG HEAT	TREATING CO	OMPANY		LOCATION	MELROSE PARK,	IL PROJ. NO. 98002.15	BORING NO.
BORING L		//	EE SITE PLA				DATE STA		6/25/98 / 6/26/98	WELL NO. M&A-127
SIJF_FILE	NO{)3118600) <u>11 </u>	OUNTY CO)OK	FEDEF	RAL ID. NO. <u>IDL</u> O	005071808	T ID HOLDOW OTTHE MOOTE	
(A)	IGLE _	KINFK H	DREST, IL	SECTION -	33.2b	T. 40N R.	<u>12E </u>	UIPMENT 4 1/4	* ID HOLLOW STEM AUGER	PG.1 OF 3
									ACF DATE 9/22/98	
GROUND	MICK	EL./VEF	SAMP	1 F		LUGGED B1 _	002	CHECKED B1	DATE	1
DEPTH FT.		TYPE and NO.	BLOWS PER 6 IN.	PEN IN.	REC IN.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIPT	TONS
-									CONCRETE	-
- - 1 -			3					(FILL)	DAMP, LOOSE, BROWN MEDIUM S LITTLE FINE SAND, TRACE COAR FINE GRAVEL.	
- 2 - -		SS-1	5	24	18	48.5	NO ODOR	(FILL)	DAMP, MEDIUM DENSE, BLACK F SAND, SOME SILT, TRACE COAR: GRAVEL.	
- 3 -			2			,	SLIGHT PETROLEUM			-
4		SS-2	3	24	16	115.0	ODOR DIAGONAL FRACTURING	(FILL)	MOIST/DAMP, FIRM, GRAY SILT FINE TO MEDIUM GRAVEL, TRA	
5			1							
-		SS-3	1	24	20	259.0	SLIGHT	(FILL)	SIMILAR TO SS-2.	_
6		22-0	1 2		20	239,0	PETROLEUM ODOR	(LACUSTRINE)	WET, SOFT, GRAY CLAY, SOME GRAVEL.	SILT, TRACE FINE -
<u></u> 7 − 7			1							
8		SS-4	3	24	16	278.0	NO ODOR	(LACUSTRINE)	MOIST, SOFT, TAN CLAY, SOM COARSE SAND, TRACE FINE G	
-			5							_
9			3							
10		SS5	5 7	24	20	217.0	NO ODOR	(LACUSTRINE)	MOIST, STIFF, OLIVE SILT, SON COARSE SAND, TRACE FINE G	
- - - 11			10							
_		-	2							<u> </u>
12		SS-6	2	24	18	90.5	NO ODOR	(LACUSTRINE)	DAMP/MOIST, STIFF, GRAY CL TRACE COARSE SAND, TRACE	
13			6							- - +
14		SS-7	3	24	24	86.7	CLAY ODOR	(LACUSTRINE)	MOIST, STIFF, GRAY/OLIVE CL TRACE COARSE SAND, TRACE	
1.		SPUT S	. HAMMER FAI SPOON SAMPL ON LENGTH O	ER .					GTH OF SOUND CORES >4 IN./LENC EPTH BELOW GROUND SURFACE	GTH CORED,%

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PHOTO VAC 2020 PJD, EQUIPPED WITH 10.6 eV LAMP.

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

WATER TABLE (APPROX)

Mabbett & Associates,

- Environmental Consultants & Engineers Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651 PROJECT/CLIENT LINDBERG HEAT TREATING COMPANY LOCATION MELROSE PARK, IL PROJ. NO. 98002.15 BORING NO. _ 6/25/98 SEE SITE PLAN 6/26/98 BORING LOCATION DATE START/FINISH WELL NO. M&A-127 FEDERAL ID. NO. ____IDL005071808 SPECILE NO. 0311860011 COUNTY COOK PG. 2 OF 3. Q. RANGLE RIVER FOREST, IL SECTION 33.2b T. 40N R. 12E DRILLING EQUIPMENT 4 1/4" ID HOLLOW STEM AUGER GROUND ELEVATION (NGVD) ______ CONTRACTOR D&G DRILLING, INC. FOREMAN DENNIS _____ CHECKED BY <u>ACF</u> DATE <u>9/22/98</u> LOGGED BY _____ GGL GROUNDWATER EL./DEPTH _ SAMPLE DEPTH **BLOWS** HEADSPACE TYPE PEN REMARKS SOIL AND ROCK DESCRIPTIONS and NO. PER 6 IN. IN. IN. PPM FT. 5 8 15 3 3 (LACUSTRINE) MOIST, STIFF, GRAY CLAY, LITTLE SILT, TRACE SS-8 16 24 22 137.0 CLAY ODOR COARSE SAND, TRACE FINE TO MEDIUM GRAVEL 5 10 17 3 (LACUSTRINE) SS-9 24 24 49.0 DAMP/MOIST, STIFF, GRAY CLAY, LITTLE SILT, 18 TRACE COARSE SAND, TRACE FINE TO MEDIUM GRAVEL. 7 19 2 DAMP/DRY, STIFF, GRAY SILT, SOME CLAY, (LACUSTRINE) 3 LITTLE FINE TO MEDIUM GRAVEL, TRACE FINE NO ODOR SS-10 22 52.8 20 24 SAND, TRACE COARSE SAND. 10 (LACUSTRINE) DAMP/DRY, DENSE, GRAY FINE SAND, SOME SILT, 25 HORIZONTAL 21 TRACE COARSE SAND, TRACE FINE GRAVEL. CLEAVAGE 10 DAMP, HARD, GRAY SILT, LITTLE VERY FINE (LACUSTRINE) 11 SS-11 18 32.2 SAND, LITTLE CLAY, LITTLE FINE GRAVEL, TRACE 24 22 COARSE SAND. 18 21 23 10 (LACUSTRINE) DAMP, VERY STIFF, VERY FINE GRAY SAND AND 12 SILT, TRACE COARSE SAND. SS-12 24 22 106.0 24 15 (LACUSTRINE) MOIST/WET, MEDIUM DENSE, GRAY FINE SAND, TRACE SILT. 12 25 5 3" WET 10 GRAY/BLACK (LACUSTRINE) DAMP, VERY STIFF, GRAY SILT, SOME VERY FINE 107.0 26 SS-13 24 22 FINE MEDIUM SAND, TRACE COARSE SAND, TRACE FINE 11 SAND GRAVEL. 25.75-26 12 27 NO ODOR (LACUSTRINE) DAMP, VERY STIFF, GRAY SILT, SOME VERY FINE

SLIGHT

DIAGONAL

FRACTURING

'S PER 6" =140 lb. Hammer falling 30" to drive a 2.0 in. o.d. SPLIT SPOON SAMPLER

10

13

PEN=PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

SS-14

S=SAMPLE TAKEN OFF AUGER HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PHOTO VAC 2020 PID FOILIPPED WITH 10 6 eV LAMP

24

22

29.8

RQD=LENGTH OF SOUND CORES >4 IN./LENGTH CORED,%

DEPTH=DEPTH BELOW GROUND SURFACE

MEDIUM GRAVEL

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

SAND, TRACE COARSE SAND, TRACE FINE TO

WATER TABLE (APPROX)

Five Alfred Circle, Bedford, Massachusetts 01730 • (781) 275-6050 • Fax: (781) 275-5651

					Dearora, massac	11200000 01700 ((701) 210 0000	1 22/ (701) 270 0001	
PROJECT	CLIENT LIN	DBERG HEAT	TREATING C	OMPANY		LOCATION	MELROSE PARK,	IL PROJ. NO. 98002.15	BORING NO
BORING L		SEE SITE PLA				DATE ST.		6/25/98 / 6/26/98	WELL NO. M&A-127
SIJF FILE	NO. 0311860	0011 (COUNTY C	00K	FEDER	RAL ID. NOIDL	005071808	,	
Q. ∴AN	GLE RIVER	FOREST, IL	SECTION	33.2b	T. 40N R.	12E DRILLING E	QUIPMENT 4 1/4	" ID HOLLOW STEM AUGER	PG. 3 OF 3
GROUND	ELEVATION (N	IGVD)			CONTRACTOR L	&G DRILLING, INC	FOREMAN	DENNIS	
								ACF DATE 9/22/98	
		SAMI							1
DEPTH FT,	TYPE and NO.	BLOWS PER 6 IN.	PEN IN.	REC In.	HEADSPACE PPM	REMARKS		SOIL AND ROCK DESCRIP	TONS
	N	1							
F		13							
-	N	22			Ì				
29									
-		10							
	~ ·-	12		000		NO ODOR	() 4 5 1 5 1	CHELLED TO CO. 1:	
— 30 –	SS-15	21	24	22	8.6	DIAGONAL FRACTURING	(LACUSTRINE)	SIMILAR TO SS-14.	-
F						UNITOTORY			
<u> </u>		28					1		
— 31 –	N	46							
 	Ŋ	15				-			
- - 32	SS-16	29	24	22	86.4	HORIZONTAL	(LACUSTRINE)	DRY, VERY DENSE, GRAY VERY	LEIME GYMU CUME
- 32	33-10	38	Z4	22	00.4	CLEAVAGE/	(LACOSTRINE)	SILT, TRACE COARSE SAND, TI	
-						FRACTURING NO ODOR		,,	
33		37				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
- 33						DRILLER			***
-			1			ERROR NO SAMPLE	<u> </u>		
34		ľ				33 TO 34'			
J#		8					(LACUSTRINE)	DRY/DAMP, STIFF, GRAY SILT,	SOME FINE SAND,
 			1	1		<u> </u>		TRACE COARSE SAND.	
35	SS-17	12	24	24	37.2	NO ODOR	(TILL)	DRY/DAMP, VERY STIFF, GRAY	'SIT HITTE FINE -
F 30	33	15	^+	2.7	37.2	NO OBOK	(")	SAND, LITTLE CLAY, TRACE CO	DARSE SAND,
								TRACE FINE TO MEDIUM GRAV	EL.
<u></u>		21		6	1				
-								BOTTOM OF BORING AT 36 FE	ET.
								WELL INSTALLED AT 30 FEET.	
<u> </u>									-
 							NOTES	1. CONCRETE DRILLED WITH SOLI	D STEM AUGER
F					ŀ		1	FINGER BIT.	
\vdash								2. AUTOMATIC HYDRAULIC HAMM	er utilized for .
	11							SPLIT SPOON ADVANCEMENT.	
-									
F									
<u> </u>			1				-		
F			1						
<u> </u>									
							1		
<u> </u>									
BI C''S P	FR 6" =140 †	B. HAMMER FA	11 NG 30" T	U DBINE V	20 N OT	 	- I	IODI OF COURS CORES	TI CORES T
1	SPLIT	SPOON SAMPL	.ER					IGTH OF SOUND CORES >4 IN./LENG	FIT CORED,%
1	DENI-DENIETO A	TION LENGTH C	TE CAMDIED	UD VUDE	DADDEL		DFFIH=0	DEPTH BELOW GROUND SURFACE	

PEN=PENE IRATION LENGTH OF SAMPLER OR CORE BARREL REC=RECOVERY LENGTH OF SAMPLE

SS=SPLIT SPOON SAMPLE

S=SAMPLE TAKEN OFF AUGER

HEADSPACE=RESULT OF FIELD HEADSPACE SCREENING WITH PHOTO VAC 2020 PID. EQUIPPED WITH 10.6 eV LAMP.

(GRAPHICAL COLUMN SHOWS LOCATION OF SAMPLE)

₩ATER TABLE (APPROX)

Alfred Circle Redford Massachusetts 01730 • (781) 275–6050 • Fax: (781) 275–5651

MONITORING WELL		I DIAGRAM	,
VECT/CLIENT LINDBERG HEAT TREATING COMPANY			M&A-127
LOCATION 1975 NORTH RUBY STREET, MELROSE PAR			
CONTRACTOR D&G DRILLING, INC.			
LOGGED BY GGL		[1]	OCATION <u>SEE SITE PLAN</u>
CHECKED BY ACF		l i	
CHECKED BT AGE	DUIT		
,		ELEVATION TOP OF CASING	634.52
		ELEVATION—TOP OF RISER PIPI	
	/ /	LEETHINGS, TOT OF MOLECULA	
		次	
K<\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		<i>(</i> ;	
L~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		TYPE OF SURFACE SEAL	CONCRETE
		•	
		TYPE OF SURFACE CASING	W.T. FEOSIT NOAD BOX
		DEPTH-BOTTOM OF SURFACE CASING	10 INCHES
		DEPTH-BOTTOM OF SURFACE SEAL/	1 F00T
<u> </u>		TOP OF BACKFILL	
1 12		RISER PIPE:	CONTRAINE 40 OVO
<u> </u>		TYPE NOMINAL DIAMETER	SCHEDULE 40 PVC 2 INCHES
1			8 INCHES
		DIAM. OF BOREHOLE	N/A
Ī		TYPE OF BACKFILL	N/A
<u> </u>			
1			
72		DEPTH—TOP OF SEAL TYPE OF SEAL	1 FOOT BENTONITE CHIPS
		DEPTH—TOP OF FILTER PACK	
- No.		TYPE OF FILTER PACK DEPTH—TOP OF SCREEN	SILICA SAND 20 FEET
		SCREENED SECTION:	
		TYPE	SCHEDULE 40 PVC
		NOMINAL DIAMETER	2 INCHES
		SLOT SIZE	0.01 INCHES
		SLOT TYPE	MACHINE SLOTTED
1	三二二		
		DEPTH-BOTTOM OF WELL	30_FEET
77	//////	DEPTH-TOP OF SEAL, IF AN	y 31 FEET BENTONITE CHIPS
		TYPE OF SEAL	
NOT TO SCALE		DEPTH-BOTTOM OF BOREHO	LE <u>36 FEET</u>

		Five Alfr	ed Circle, B	Bedford, M	assachuse	tts 01730 🗢 (61	7) 275-6050 • Fax: (617) 275-5651	
PROJECT/	CLIENT LIND	BERG HEAT I	REATING CO.			LOCATIO	N_MELROSE, IL, PROJ. NO. 87024.07	1414 40
BORING LO		SEE SITE PL					FART/FINISH <u>02/22/92</u> / <u>02/22/92</u>	MW-10
Ŀ							BY FOX DRILLING	
	ATER DEPTH	29.5	FT. SAMPI			LOGGED	BY GLO DATE _02/22/92	PG. 1 OF 2
EL.	DEPTH	TYPE	BLOWS	PEN	REC	HEADSPACE	2014 1445 50014 05000000	
FT.	FT.	and NO.	PER	IN.	iN.	RESULTS	SOIL AND ROCK DESCRIPT	ONS
L		NO.	6 IN.					
	-							-
	-		İ					-
	— 2							·
	-				•			=======================================
•	ᆫ, . :							-
	F		9 14	·			CLAY - MEDIUM PLASTICITY, TRACE TO FINE MED	MILLY CAME DECIMAL
	<u>L</u>	SS-1	15	24	15	0.2ppm	CEAT - MEDIUM PEASTICITI, TRACE TO FIRE MED	JIOM SAND, BROWN.
	⊢ 6 .		16				4	-
	· _			i				
	-							_
	8							<u></u>
	+		5				-	-
	10	\$S-2	9 14	24	20	ND	CLAY - MOD. PLASTIC, TRACE MED-COARSE SAI	ND AND FINE —
	L	Ã.,	6				GRAVEL, LIGHT GRAY.	-
	F						1.	-
	12							
	-							-
	14						_	
	-		3 5				and the second second	-
	F	SS-3	11 14	24	24	0.1ppm	<u>CLAY</u> - MOD PLASTIC, GRAY.	- -
ļ	16		17			1	-	
	-							_
İ	18				<u> </u> 		_	
	-							-
	-	SS-4	39 50/5"	11	10	ND	CLAY - TOP 4" OF SAMPLE - LOW MOD. PLAST	
1	20		30/3				LITTLE SAND. MIDDLE 3" OF SAMPLE — SILT, BOTTOM 3" OF SAMPLE — LOW PL	FINE SAND AND ASTIC CLAY AND
	F						FINE SAND, GRAY.	-
	- 22				ļ	1		_
	- 22				1	1		_
]				-
	24	SS-5	50	6	5	0,15ppm	SILTY SAND & CLAY - SIMILAR TO BOTTOM OF	
	L	33-3	J0	-	3	0.15ppiii	SILET SAND & CLAT - SIMILAR TO BUTTOM OF	33°-4 _
								-
	— 26 -		}		1			·
	L			1				-
							·	_
	ţ				1			-
	-							-
BI	LOWS PER 6	-140 LB. HA	MMER FALLING	30" TO DR	RIVE A 2.0 I	1. O.D.	ROD-LENGTH OF SOUND CORES >4 IN./	LENGTH CORED,%

BLOWS PER 6" -140 LB. Hammer falling 30" to drive a 2.0 in. 0.D. Split spoon sampler

PEN-PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC-RECOVERY LENGTH OF SAMPLE SS-SPLIT SPOON SAMPLE GC-FIELD GAS CHROMATOGRAPH

HNU-FIELD HEADSPACE READING, CORRECTED FOR BACKGROUND BC-BACKCROSIND

U-UNDISTURBED SAMPLES GROUNDWATER

INTERFACE ADDROVILLATE INTEREST

Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fax:(617) 275-5651

PROMETCYCLENT LIMITERED HEAT TREATING CO	000 :=== '	outerra 1446	OCDO UCIT	TOCATUR OF		· · · · · · · · · · · · · · · · · · ·		VELDOCE #	
CROUND ELEVATION (NOTO) 23.5 TI. CROUND SELEVATION (NOTO) 23.5 TI. CROUND SELEVATION (NOTO) CROUND									MW-10
GROUNDWATER CEPTH R. SAMPLE SAMPLE FEN REC RESULTS SOIL AND ROCK DESCRIPTIONS - 28 - 30 SS-6 13 13 24 20 MO SAMP - WICELY GRADED, SOME FINE GRAVEL, UTILE SUIT, GRAY, - 32 35 SHELPY PUSH 124 12		CATION	SEE SHE PL	AN			DATE S	TART/FINISH 02/22/92 / 02/22/92	
EL. DEPIN TYPE ON DE TONS PEN IN. DL. DL. PER SANTS SOIL AND ROCK DESCRIPTIONS									מר א מר א
FT. FT. PTP ROWS PEN RC ON							LOGGED	BY DATE	ru. 2 Ur 2
FI. FT. ond PPER N. 9L IN. PESATS SOME AND ROCK DESCRIPTIONS - 28	l tL	DEPTH	TATE			DEC .	HEADSPACE	,	·
- 28 13 24 20 NO SAND - MIDELY CRIADED, SOME FINE GRAVEL, LITTLE SLT, CRAY. - 30 SS-6 13 30 24 18 ND SAND - SMILLAR TO SS-6 - 30 SHELBY FUSH 12+ 12+ ROTTOM OF BORNG - 37 WELL INSTALLED © 34 - 31 STA			and	PER		1 1		SOIL AND ROCK DESCRIPTI	ONS
SS-6	<u> </u>		NO.	6 IN.	1N.	IN.			
SS-6 13 24 20 NO SAND - MOELY GRADED, SOME FINE CRAYEL, LITTLE SILT, CRAY. 32		L				[]			
SS-6 13 24 20 NO SAND - MOELY GRADED, SOME FINE CRAYEL, LITTLE SILT, CRAY. 32		-							-
SS-6 13 24 20 NO SAND - MOELY GRADED, SOME FINE CRAYEL, LITTLE SILT, CRAY. 32		<u></u>					•	ļ	_
30 SS-6 19 24 20 NO SAND - WORLY GRADED, SOME FINE GRAVEL, LITTLE SLT, GRAY. — 32	-	<u> </u> 28							
30 SS-6 19 24 20 NO SAND - WORLY GRADED, SOME FINE GRAVEL, LITTLE SLT, GRAY. — 32		-		17					_
32 23 24 30 30 24 18 NO SAMD - SIMILAR TO SS-6	<u> </u>	F 70					MD	SAND - WIDELY GRADED, SOME FINE GRAVEL LIT	TIF SIT GRAY
- 32 - 34 - 34 - 35 - 36 - 36 - 36 - 36 - 36 - 36 - 36 - 36		F 30	22-6	23	24	20	NU		
34 18 SS -7 30 24 18 ND SAMD - SIMILAR TO SS -6 CLAY - SIMILAR TO SS -3 SHELBY PUSH 12+ 12+ BOTTOM OF BORING - 37' WELL INSTALLED • 34'		┝		30	·			-	-
34 18 SS -7 30 24 18 ND SAMD - SIMILAR TO SS -6 CLAY - SIMILAR TO SS -3 SHELBY PUSH 12+ 12+ BOTTOM OF BORING - 37' WELL INSTALLED • 34'	İ	L 72							-
SS-7 30 24 18 ND SAMD SAMD SANTA TO SS-6 GLAY - SIMILAR TO SS-3 SHELBY PUSH 12+ 12+ TUBE BOTTOM OF BORING - 37' WELL INSTALLED • 34'		- J2							
SS-7 30 24 18 ND SAMD SAMD SANTA TO SS-6 GLAY - SIMILAR TO SS-3 SHELBY PUSH 12+ 12+ TUBE BOTTOM OF BORING - 37' WELL INSTALLED • 34'		-					,		_
SS-7 30 24 18 ND SAMD SAMD SANTA TO SS-6 GLAY - SIMILAR TO SS-3 SHELBY PUSH 12+ 12+ TUBE BOTTOM OF BORING - 37' WELL INSTALLED • 34'		- za							-
SS-7 30 24 18 ND SLAY - SMILAR TO SS-3		- "		18				SAND - SIMILAR TO SS-6	
SHELBY PUSH 12+ 12+ TUBE PUSH 12+ 12+ BOTTOM OF BORING - 37' WELL INSTALLED @ 34'		┝	SS-7	30	24	18	ND	 	
TUBE PUSH 12+ 12+ BOTTOM OF BORING - 37' WELL INSTALLED @ 34'		36					·	CLAT - SIMILAR 10 55-3	-
BOTTOM OF BORING — 37' WELL INSTALLED @ 34'		-	SHELBY	PUSH	12+	12÷			_
WELL INSTALLED • 34'		Ė	1000						
		<u> </u>	,		:	ļ		BOTTOM OF BORING - 37'	- -
		F					•	WELL HESTALLED & ST	-
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BLOWS PER 6" -140 LB. HAMMER FALLING 30" TO DRIVE A 2.0 IN. O.D. SPLIT SPOON SAMPLER

PEN-PENETRATION LENGTH OF SAMPLER OR CORE BARREL

REC-RECOVERY LENGTH OF SAMPLE

SS-SPLIT SPOON SAMPLE

ROD-LENGTH OF SOUND CORES >4 IN./LENGTH CORED,%

U-UNDISTURBED SAMPLES

INTERFACE

APPROVINATE INTERFACE

GROUNDWATER

Five Alfred Circle, Bedford, Massachusetts 01730 • (617) 275-6050 • Fax: (617) 275-5651

		122 (217) 212 0000 11421(017) 1	
MONITORING V	VELL INSTALLA	TION REPORT	
ROJECT/CLIENT LINDBERG HEAT TREATH			MW-10
OCATION _MELROSE PARK, IL.			PG. <u>1</u> 0F <u>1</u>
ONTRACTOR FOX DRILLING			DODING NO NW 10
			BORING NO. MW-10
GGED BY GLO		ľ	LOCATION SEE SITE PLAN
ECKED BY	DATE		***************************************
			·
		ELEVATION- TOP OF CASING	·
		ELEVATION—TOP OF RISER P	MPF -
//////////////////////////////////////	CALLE TORK	~~~~	
MINIKINIKI		X/X/,	
		TYPE OF SURFACE SEAL	CONCRETE
			4*
		TYPE OF SURFACE CASING	FLUSH MOUNT
		THE OF SOUTHOE OF ISSUE	
		DEPTH-BOTTOM OF SURFACE CASIN	G <u>2'</u>
		DEPTH-BOTTOM OF SURFACE SEAL/	6*
	125 251	TOP OF BACKFILL	
		Riser Pipe:	
		TYPE	SCHEDULE 40 PVC
		NOMINAL DIAMETER	2 INCHES
		DIAM. OF BOREHOLE	8 INCHES
		TYPE OF BACKFILL	NATURAL
		THE OF BACKINE	TIVION IL
			* 6
	222 222 -	DEPTH-TOP OF SEAL	20'
		TYPE OF SEAL DEPTH—TOP OF FILTER PACE	<u>BENTONITE</u> K <u>22'</u>
		TYPE OF FILTER PACK	SILICA
		DEPTH-TOP OF SCREEN	24*
	<u> </u>	SCREENED SECTION:	
		TYPE	SCHEDULE 40 PVC
		NOMINAL DIAMETER	2 INCHES
.•		SLOT SIZE	0.01 INCHES
		SLOT TYPE	MACHINE SLOTTED
		DEPTH-BOTTOM OF WELL	34'
		DEPTH—TOP OF SEAL, IF AN	-
		TYPE OF SEAL	NONE
NOT TO COME			
NOT TO SCALE	<u> </u>	DEPTH-BOTTOM OF BOREHO	DLE37*

APPENDIX B EPA INSPECTION DOCUMENTATION



United States Environmental Protection Agency Washington, D.C. 20460 **Toxic Substances Control Act**

NOTICE OF INSPECTION

Form Approved OMB No. 2070-0007 Approval Expires 07-31-96

The public reporting burden for this collection of information is estimated to average 5 minutes per response. This estimate includes time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information to the Chief, Information Policy Branch (PM-223), US Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, and to the Office of Information and Regulators, Maint Office of Management and Burdent Washington. DC 20500 marked ATTENTION: Desk Office for EDA

Information and Regulatory Affairs, Office of Management and Budget, W	vashington, UC 2000, marked ATTENHON: Desk Officer for EPA.
Investigation Identification Z. Time	3. Firm Name
e Inspector No. Daily Seq. No. 1207	Bodycote Thermal Processing
9511 W. Harrison St.	5. Firm Address 1975 N Ruby St
1311 W. Itervison at.	Melrose Park, IL 60160
Des Maines 16 60016-1563	60160
REASON FOR I	INSPECTION
Under the authority of Section 11 of the Toxic Substances Com	itrol Acts (1882) in the professional and a first enterior algorithms for a single visit
establishment, facility, or other premises in which chemical separate processed or storad, or held before or after their distribution in a separate facilities) and any conveyance being used to transport chemicals.	es, sphotographs, statements, and other inspection activities) and substances or mixtures or articles containing same are manufactured in commerce (including records, files, papers, processes, controls, and mical substances, mixtures, or adicles containing same in connection papers, processes, controls, and facilities) bearing on whether the
requirements of the Act applicable to the chemical substan	nces, mixtures, or articles within or associated with such premises or
conveyance have been complied with.	para magni di territoria di para di para di para di para di para di para di para di para di para di para di pa
In addition, this inspection extends to (Check appropriate blo	ocks):
A. Firancial data	D. Personnel data
B. Sales data C. Pricing data	E. Research date
The nature and extent of inspection of such data specified in	A through E above is as follows:
	4
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	. ,
	•
Cert	lification
I certify that the statements I have made on this form and all attach knowingly false or misleading statement may be punishable by fine	nments thereto are true, accurate, and complete. I acknowledge that an or imprisonment or both under applicable law.
nspector Signature	Recipient Signature
Name (Carlo	Name ('Huck V = 10.01)
Title Date Signed	Title Date Signed
Els 111 11-30-0	S PLANT ENGINEER 11-30 05

&EPA

United States Environmental Protection Agency Washington, D.C. 20460

Toxic Substances Control Act

OMB No. 2070-0007 Approval Expires 10-31-92

Form Approved

TSCA INSPECTION CONFIDENTIALITY NOTICE

The public reporting burden for this collection of information is estimated to average 5 minutes per response. This estimate includes time for reviewing instructions, searching existing data sources, gethering and maintaining the needed data, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information to the Chief, Information Policy Branch (PM-223), US Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked ATTENTION: Desk Officer for EPA.

Investigation Identification Date Inspector No. / Daily Seq. No.	2. Firm Name	
11-30-05 IL419 601	Body cote Thermal Processi	
3. Inspector Name Jim Cak	1975 N. Ruby St	
9511 W- Howison St.	6. Chief Executive Officer Name	
Des Plarus 12 6016	TIM VEEJOBAS	
	DIVISION MANDA COET	
TO ASSERT A CONFIDENTIAL BUSINESS INFORMATION CLAIM		
It is possible that EPA will receive public requests for release of the information obtained during inspection of the facility above. Such requests will be handled by EPA in accordance with provisions of the Freedom of Information Act (FOIA), 5 USC 552; EPA regulations issued thereunder, 40 CFR Part 2; and the Toxic Substances Control Act (TSCA), Section 14. EPA is required to make inspection data available in response to FOIA requests unless the Administrator of the Agency determines that the data contain information entitled to confidential treatment or may be withheld from release under other exceptions of FOIA.	 The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on showing of special need in a judicial or quasi-judicial proceeding). The information is not publicly available elsewhere. Disclosure of the information would cause substantial harm to your company's companying	
Any or all the information collected by EPA during the inspection may be claimed confidential if it relates to trade secrets or commercial or financial matters that you consider to be confidential business information. If you assert a CBI claim, EPA will disclose the information only to the extent, and by means of the procedures set forth in the regulations (cited above) governing EPA's treatment of confidential business information. Among other things the regulations requires that EPA metric transfer.	company's competitive position. At the completion of the inspection, you will be given a receipt for all documents, samples, and other materials collected. At that time, you may make claims that some or all of the information is confidential business information.	
other things, the regulations require that EPA notify you in advance of publicity disclosing any information you have claimed as confidential business information. A confidential business information (CBI) claim may be asserted at any time. You may assert a CBI claim prior to, during, or after the information is collected. The declaration form was developed by the Agency to assist you in asserting a CBI claim. If it is more convenient for you to assert a CBI claim on your own stationery or by marking the individual documents or samples "TCSA confidential business information," it is not necessary for you to use this form. The inspector will be glad to answer any questions you may have regarding the Agency's CBI procedures.	if you are not authorized by your company to assert a CBI claim, this notice will be sent by certified mail, along with the receipt for documents, samples, and other materials to the Chief Executive Officer of your firm within 2 days of this date. The Chief Executive Officer must return a statement specifying any information which should receive confidential treatment. The statement from the Chief Executive Officer should be addressed to: EMMA Avent DCO USEMA Region TF-147	
While you may claim any collected information or sample as confidential business information, such claims are unlikely to be upheld if they are challenged unless the information meets the following criteria: 1. Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.	and mailed by registered, return-receipt requested mail within 7 calendar days of receipt of the Notice. Claims may be made any time after the inspection, but inspection data will not be entered into the special security system for TSCA confidential business information until an official confidentiality claim is made. The data will be handled under the agency's routine security system unless and until a claim is made.	
TO BE COMPLETED BY FACILITY OFFICIAL RECEIVING THIS NOTICE: I have received and read the notice.	If there is no one on the premises of the facility who is authorized to make business confidentiality claims for the firm, a copy of this Notice and other inspection materials will be sent to the company's chief executive officer. If there is another company official who should also receive this information, please designate below.	
Certification I certify that the statements I have made on this form and all attachments knowingly false or misleading statement may be punishable by fine or imprison	s thereto are true, accurate, and complete. I acknowledge that any comment or both under applicable law.	
Signature, luch Verney	Name	
CHUCK KESSOY	Title	
Pine Facultaria Date Signed	Address	

&EPA

United States Environmental Protection Agency Washington, D.C. 20460

Toxic Substances Control Act

RECEIPT FOR SAMPLES AND DOCUMENTS

Form Approved OMB No. 2070-0007 Approval Expires 10-31-92

The public reporting burden for this collection of information is estimated to average 5 minutes per response. This estimate includes time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information to the Chief, Information Policy Branch (PM-223), US Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked ATTENTION: Desk Officer for EPA.

	Investigation Identification	2. Firm Name
11-30-08	Inspector No. Daily Seq. No.	Body cake Thermal Processing
9511 W	Horrisa St	Bodycofe Thermal Processing 4. Firm Addless 1975 N. Ruby St. Melrose Park 14 60160
Mes M	latines 16. 60016	Melrose Park ic 60160
The documents and samples of chemical substances and/or mixtures described below were collected in connection with the administration and enforcement of the Toxic Substances Control Act.		
	Receipt of the document(s) and/or sa	ample(s) described is hereby acknowledged:
No.	Descr	ription
Four	Documents vela	ted to PCB product
	recovery,	
)		
/		
Optional: Duplicate or split samples: Requested and Provided Not Requested Mod Applicable		
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly lalse or misleading statement may be punishable by fine or imprisonment or both under applicable law.		
Amil	loch	Recipient Signature Name
Title / tun	Date Signed	CHUCK KEUSUN. Title Date Signed
	15 74-08	2005-11 427 CV 1000 JUNIA

APPENDIX C WRITTEN CERTIFICATION



Mabbett & Associates Inc.

September 12, 2006

Bedford, Massachusetts 01730-2348 Tel: (781) 275-6050 Fax: (781) 275-6851 info@mabbett.com www.mabbett.com

5 Alfred Circle

Mr. Tony Martig Regional PCB Coordinator US EPA Region V 77 W. Jackson Blvd. Chicago, IL 60604

Re: PCB Certification

Bodycote Thermal Processing 1975 N Ruby Street Melrose Park, IL 60160 Project No. 1998002,200

Dear Mr. Martig:

This written certification serves to notify the EPA about the subject site in question. The property is located at 1975 N Ruby Street, Melrose Park, Illinois 60160. Mabbett & Associates, Inc. (M&A) of 5 Alfred Circle, Bedford, Massachusetts is the Environmental Consultant in charge of remediation efforts. Please be advised that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site, are on file at the location designated in this certificate, and are available for EPA inspection. A PCB Action/Work Plan prepared by M&A and dated September 12, 2006 is also on file at the Site. If you have any question please feel free to contact either Paul Steinberg at M&A, or Brian Strebing at Bodycote Thermal Processing.

Very truly yours,

MABBETT & ASSOCIATES, INC.

Paul D. Steinberg

Vice President

 $(781) 275-6050 \times 306$

cc: (MF/RF)

BODYCOTE THERMAL PROCESSING

Brian A. Strebing

Manager of Engineering and Equipment

(708) 236-5352